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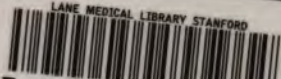
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INDUSTRIAL INSTABILITY OF
CHILD WORKERS

A STUDY OF
EMPLOYMENT-CERTIFICATE RECORDS
IN CONNECTICUT

By

ROBERT MORSE WOODBURY, Ph. D.

61

INDUSTRIAL SERIES No. 2

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INDUSTRIAL INSTABILITY OF
CHILD WORKERS

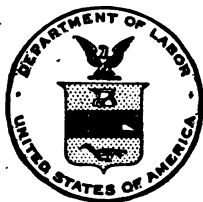
A STUDY OF
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LETTER OF TRANSMITTAL.

U. S. DEPARTMENT OF LABOR,
CHILDREN'S BUREAU,
Washington, December 1, 1919.

SIR: I transmit herewith a report on Industrial Instability of Child Workers, a study of the records of employment certificates issued to children between 14 and 16 years of age in Connecticut.

The report was written and the tabulations were planned by Dr. Robert Morse Woodbury, director of statistical research of the Children's Bureau. The plan of securing and using these records as a basis of a report to show the frequent changes of position and the amount of unemployment among young children who have left school for work was an outgrowth of the study of the administration of child-labor laws in Connecticut carried on under the supervision of Mrs. Helen Sumner Woodbury.

Thanks are due to the Connecticut State Board of Education for generous cooperation in the work.

Respectfully submitted.

JULIA C. LATHROP, *Chief.*

Hon. W. B. WILSON,
Secretary of Labor.

FOREWORD.

The following study, based upon employment certificate records in Connecticut, throws light upon important questions regarding child labor. The first question is how soon after passing the fourteenth birthdays do children actually begin to seek employment in a State where 14 is the minimum legal age for employment. The study shows how the proportion of children at work gradually increased from about 7 per cent in the month following the fourteenth birthday to nearly 32 per cent at 15 years of age.

Other questions relate to the way children become adjusted to industrial life. The length of time they stay in their first positions reflects the degree to which the first positions are satisfactory to the children and how well they satisfy their employers. Over half the children stayed six months or longer in their first positions. Girls tended to stay longer in their first positions than boys. As between industries, the textile group showed relatively long periods of employment. On the other hand, the proportion of children leaving their first positions soon after commencing work is an indication of unsatisfactory adjustment. A large proportion—over one-third—left their first positions within three months, and one-half of these within one month. Some children left position after position; a small group, characterized as “unsteady workers” and comprising about 2 per cent, held eight or more positions within less than 24 months of work history. In general the children gradually became adjusted to the discipline of work as their experience increased. This adjustment is shown, for example, in the decline in the monthly rate of becoming unemployed, from 9.1 cases per 100 children at work in the first month after commencing work to only 2.3 after 25 months’ experience.

4 The problem of the unemployed child—that is, the child neither at work nor in school—is a difficult one for the school administration to solve. The Connecticut law requires him to be in school unless he is at work. Without special schools to meet the special needs of working children, it is hard to fit the children who are out of work into the regular school classes, and almost impossible to enforce the school-attendance law so far as concerns them. With compulsory continuation schools for all working children these difficulties would disappear and the unemployed children could be given additional training along their chosen lines during the periods while they are out of work. The analysis shows that nearly half the children studied had one or more periods of unemployment lasting over a week, the periods lasting on an average two and one-half months, and covering one-tenth of the total work histories of all the children.

INDUSTRIAL INSTABILITY OF CHILD WORKERS: A STUDY OF EMPLOYMENT-CERTIFICATE RECORDS IN CONNECTICUT.

INTRODUCTION.

The granting of employment certificates and the consequent accumulation of records for children between the ages of 14 and 16 officially permitted to work opens up a new field for the investigation of child labor. Hitherto statistics of child labor have been dependent upon the census or upon necessarily limited studies made in particular localities and covering special phases of the subject. But, especially with the adoption by States of laws requiring a child to secure an employment certificate for each different position, it has now become possible to study the extent, character, and duration of employment and as many other phases of child labor as are covered by the information obtained in connection with issuing the certificate.

One of the first States to require a new certificate for each new position was Connecticut,¹ which at the same time (1911) placed the issuing of certificates for the entire State in the hands of the State board of education. This unusual centralization of authority has created in the office of the State board at Hartford a complete file of records covering every child who has taken out a certificate anywhere in the State since September 1, 1911.

Connecticut thus offered exceptional facilities for the study of child labor as reflected in its centralized records of the employment histories of children between 14 and 16 years of age. On this account it was chosen for a tentative study designed to throw light upon certain points, such as the numbers of positions held and the amount of unemployment, which are not easily obtained in the ordinary investigation because of the limited time covered.

Except for Rhode Island, Massachusetts, and New Jersey, Connecticut is the most densely populated State in the country. Favored by comparatively abundant water power and good shipping facilities, it is preeminently a manufacturing State. In 1909 it ranked twelfth among the States in value of manufactured products. Its industries are widely diversified; those employing the largest numbers of wage earners in 1910 manufactured foundry and machine

¹ This system was first adopted in Ohio and shortly afterwards in Wisconsin, but in neither of these States was the system of issuing certificates so highly centralized that complete records for the entire State can be found in any one place.

soap products, brass and bronze products, cotton goods, silk and silk goods, firearms and ammunition, woolen goods, cutlery and tools, corsets, and silverware.

Not all these industries offer to the same degree opportunities for child labor. But with such a variety of industries it would be expected that children seeking employment would be able to find places somewhere, and the diversified opportunities might be expected to favor, other things being equal, the relatively early beginning of work by children.

The Connecticut law requiring employment certificates went into effect on September 1, 1911.² It prohibits the employment of children under 14 in any mechanical, mercantile, or manufacturing establishment, and requires that children under 16 employed in such establishments shall be provided with certificates issued under the authority of the State board of education. By interpretation of the board of education, certificates are required for almost all occupations in which children are employed except agriculture and domestic service. Children working on their own account, as, for example, newsboys who sell independently, are also exempted. Nevertheless, even children seeking work in agriculture or domestic service sometimes get certificates, either because they are under the impression that they have to have them, or because employers require them to bring certificates to avoid difficulties; or because it is easier to arrange for leaving school if they first secure certificates of age and education from the educational authorities. A child who goes to work first in an occupation where he has to have a certificate and then changes to a position where certificates are not required often secures a certificate for the later position.

A general discussion of the employment-certificate system of Connecticut can be found in a publication of the Children's Bureau.³ The facts necessary to an understanding of the material here presented are as follows:

Certificates are issued to children between the ages of 14 and 16 who produce the necessary evidence of age, have fulfilled certain educational and physical requirements, and have the promise of a position. Each child must prove satisfactorily that he is over 14 years of age, that he is "able to read with facility, to legibly write simple sentences, and to perform the operations of the fundamental rules of arithmetic with relation both to whole numbers and to fractions"; and he must "not appear to be physically unfit for employment."⁴ Each child must also bring a signed statement from his

² Acts of 1911, ch. 119.

³ Sumner, Helen L., and Hanks, Ethel E.: *Employment-Certificate System in Connecticut*. U. S. Children's Bureau Publication No. 12, Industrial Series No. 2, Part 1. Washington, 1915.

⁴ Acts of 1911, ch. 119, sec. 2.

prospective employer proving that he has actually secured work. If the certificate is granted a copy is sent to the employer with a blank notice of commencement of employment, a blank notice of termination of employment, and a copy of the law dealing with the employment of children. The employer is required to fill out the notice of commencement of employment as soon as the child for whom the certificate is issued begins work. Thus there is a record not only of the issuing of the certificate but also of the actual commencement of work. In case a certificate is issued and no notice of commencement of work is received, inquiry is made of the employer by the issuing office, and the reason for the failure to send in the notice is ascertained. In some instances the child is found to have changed his mind about going to work. When the child leaves his position the employer is required to send in the termination notice unless the child has reached his sixteenth birthday before leaving the position.

A copy of each certificate is kept by the issuing officer, who is an agent of the State board of education, and is sent by him to the State board at Hartford. There the copy is filed alphabetically, and when the child secures another position the copy of his new certificate is clipped to that of his old one. Thus the information on file shows all the positions the child has had from the time he went to work until his sixteenth birthday; it gives the names of his employers, the duration of each position, the intervals between periods of employment, and other information, and shows whether or not he was still employed at 16.

The group studied includes all children who were born between September 1, 1897, and September 1, 1898, and who received employment certificates before they became 16 years of age. These children passed their fourteenth birthdays at various dates between September 1, 1911, when the new law went into effect, and September 1, 1912, and all of them, therefore, had completed their sixteenth year and the certificate record by September 1, 1914. As a result of this method of selection, the conclusions are not affected by the abnormal labor conditions due to the war but represent the normal flow of children into industry and their normal industrial histories up to the age of 16; under a system of regulation which sets up moderately strict requirements for leaving school to go to work.

Children who worked only during vacation were excluded from the study. During the latter part of the period covered, vacation certificates, obtained in the same way as the regular certificates, except that there was no educational requirement, were given for employment during the long summer vacation only. These vacation certificate records were not used. Records which showed that the child had secured a regular certificate but had worked only during

the summer vacation were also discarded. If, for example, the record began with a position secured in June, and terminated in September, and showed no other position until the following June, it was inferred that during the interval the child had returned to school. The study was thus confined to children who had definitely left school and entered the industrial world.

EXTENT OF CHILD LABOR IN CONNECTICUT.

NUMBER OF CHILDREN EMPLOYED.

The total number of children born in the year ended September 1, 1898, who received certificates in Connecticut between their fourteenth and sixteenth birthdays, as shown by the records, was 7,147. Since the completeness of the record is obviously dependent upon the effectiveness with which the law is enforced, this figure is probably a slight understatement of the number of children in the industries covered by the certificate requirement.

The bulletin of the Children's Bureau previously mentioned explains the methods of enforcing the Connecticut law. Besides measures employed to enforce the school-attendance law, which indirectly prevents the illegal employment of children, direct enforcement is sought by inspection of work establishments at intervals; and children under 14 found at work by the inspectors are sent back to school, while those between 14 and 16 who have no certificates are sent to the certificate office. In 1913-14, 134 children between 14 and 16 were found by the inspector to be working without employment certificates, 13 children under 14 were found at work, and 29 employers were prosecuted for employing children illegally.⁵ The total number of children with certificates at work in the establishments inspected was 3,849. These statistics seem to indicate that the law was well administered and enforced and that violators were vigorously prosecuted. The figures relating to children who received certificates may, therefore, be regarded as a fairly complete statement for Connecticut of the normal amount of industrial employment, between their fourteenth and sixteenth birthdays, of a group of children who were born in a given year.⁶ These figures do not, of course, represent the number of children between 14 and 16 years of age employed in Connecticut at any given date. This point is treated in connection with the discussion of the proportion of children employed.

⁵ Report of the Board of Education of the State of Connecticut, pp. 37 and 45.

⁶ For further discussion of the enforcement of the law and the margin of error in the figures see Appendix.

TABLE I.—*Age at receiving first employment certificate, by sex: Children born in year ended Sept. 1, 1898.*

Age at going to work.	Total children.		Boys.		Girls.	
	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.
All ages.....	7,147	100.0	4,000	100.0	3,147	100.0
14 years, but under 14 years 6 months.....	3,522	49.3	2,019	50.5	1,503	47.8
14 years, but under 14 years 3 months.....	2,476	34.6	1,385	34.6	1,091	34.7
14 years, but under 14 years 1 month.....	1,470	20.6	817	20.4	653	20.7
14 years 1 month, but under 14 years 2 months.....	571	8.0	323	8.1	248	7.9
14 years 2 months, but under 14 years 3 months.....	435	6.1	245	6.1	190	6.0
14 years 3 months, but under 14 years 6 months.....	1,046	14.6	634	15.9	412	13.1
14 years 3 months, but under 14 years 4 months.....	371	5.2	228	5.7	143	4.5
14 years 4 months, but under 14 years 5 months.....	340	4.8	207	5.2	133	4.2
14 years 5 months, but under 14 years 6 months.....	335	4.7	199	5.0	136	4.3
14 years 6 months, but under 15 years.....	1,721	24.1	935	23.4	786	25.0
14 years 6 months, but under 14 years 7 months.....	312	4.4	164	4.1	148	4.7
14 years 7 months, but under 14 years 8 months.....	310	4.3	174	4.4	136	4.3
14 years 8 months, but under 14 years 9 months.....	392	4.2	164	4.1	138	4.4
14 years 9 months, but under 14 years 10 months.....	287	4.0	155	3.9	132	4.2
14 years 10 months, but under 14 years 11 months.....	245	3.4	133	3.3	112	3.6
14 years 11 months, but under 15 years.....	265	3.7	145	3.6	120	3.8
15 years, but under 15 years 6 months.....	1,341	18.8	732	18.3	609	19.4
15 years, but under 15 years 1 month.....	306	4.3	151	3.8	155	4.9
15 years 1 month, but under 15 years 2 months.....	264	3.7	161	4.0	103	3.3
15 years 2 months, but under 15 years 3 months.....	210	2.9	112	2.8	98	3.1
15 years 3 months, but under 15 years 4 months.....	207	2.9	112	2.8	95	3.0
15 years 4 months, but under 15 years 5 months.....	183	2.6	98	2.5	85	2.7
15 years 5 months, but under 15 years 6 months.....	171	2.4	98	2.5	73	2.3
15 years 6 months, but under 16 years.....	563	7.9	314	7.9	249	7.9
15 years 6 months, but under 15 years 7 months.....	141	2.0	73	1.8	68	2.2
15 years 7 months, but under 15 years 8 months.....	124	1.7	77	1.9	47	1.5
15 years 8 months, but under 15 years 9 months.....	114	1.6	67	1.7	47	1.5
15 years 9 months, but under 15 years 10 months.....	81	1.1	44	1.1	37	1.2
15 years 10 months, but under 15 years 11 months.....	73	1.0	38	1.0	35	1.1
15 years 11 months, but under 16 years.....	30	.4	15	.4	15	.5

Sex.

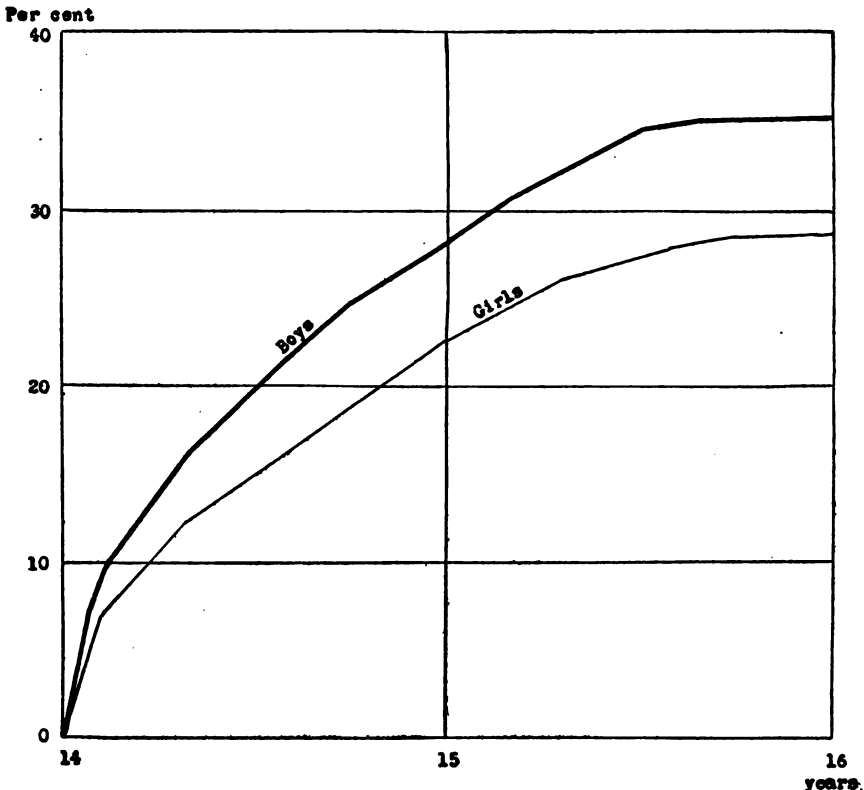
Table I shows that of the 7,147 children receiving certificates, 4,000 were boys and 3,147 were girls. Employment at these ages was therefore somewhat more common for boys than for girls. The excess of boys over girls appears at all ages but is relatively greatest in the age groups between 14 years and 14 years and 6 months.

Age.

The ages at which children are first employed and the proportions of children entering employment at the different ages are also shown in Table I. Nearly half secured certificates within six months after passing the fourteenth birthday and half the remainder secured certificates before passing the fifteenth birthday. A considerable number of children evidently leave school to secure work at the earliest opportunity. This tendency is shown graphically in the rapid rise of the curves (Chart I) immediately after the fourteenth birthday; it is interesting to note that there is a very slight tendency for the curve to rise somewhat more rapidly than usual immediately after the fifteenth birthday as well. For the rest, the gradual upward slope of the curve indicates that attainment of a given age is not the

sole factor in the child's seeking work. A considerable proportion of children finish the grade which they are in at the time when they become 14. Unpublished figures furnished by the State board of education show that the number of regular certificates issued increases immediately after the close of the school year in June,⁷ as also markedly in September, evidently due to the desire of children to avoid going back to school. During the fifteenth year there is a marked falling off in the number of children seeking work for the first time.

CHART 1. PERCENTAGE OF CHILDREN AT WORK AT SPECIFIED AGE.



PROPORTION OF CHILDREN AT WORK.

The group of children included in the study may be compared with the estimated number of children of the corresponding ages in the State. The average age of the group studied would have been 14½ years on September 1, 1912, and the ages of the children at that date would have varied between 14 and 15. It is estimated that on September 1, 1912, there were in Connecticut a total of 20,010 children

⁷ The average number of regular certificates issued for three-year period, August, 1915, to July, 1918, were as follows: 827 (August), 1,162 (September), 871 (October), 803 (November), 682 (December), 748 (January), 662 (February), 799 (March), 794 (April), 854 (May), 2,327 (June), 1,687 (July).

of this age. The number of children living in the State who were born in the year September 1, 1897, to September 1, 1898—that is, the year of birth corresponding to age 14½ on September 1, 1912—would remain practically constant during the two years covered by the study, though migration and death would affect it slightly. The number of children who took out first certificates in each month of age may, therefore, safely be compared to this basic number to find the approximate proportion of children employed at the different ages. It is found, as shown in Table II, that the proportion increases from 7.3 per cent in the first month after passing the fourteenth birthday to 31.8 per cent in the last month before the sixteenth birthday. At each age the proportion for boys is somewhat higher than the proportion for girls—at 14 years of age 8.1 per cent as compared with 6.6 per cent, and at 16, 35 per cent as compared with 28.6 per cent.³

TABLE II.—*Estimated percentage of children in Connecticut occupied at each age, by sex.*¹

Age.	Per cent of estimated number occupied.		
	Children.	Boys.	Girls.
14 years 1 month.....	7.3	8.1	6.6
14 years 2 months.....	10.2	11.3	9.0
14 years 3 months.....	12.3	13.6	10.9
14 years 4 months.....	14.1	15.8	12.3
14 years 5 months.....	15.7	17.8	13.6
14 years 6 months.....	17.3	19.6	14.9
14 years 7 months.....	18.7	21.1	16.3
14 years 8 months.....	20.1	22.7	17.6
14 years 9 months.....	21.5	24.2	18.8
14 years 10 months.....	22.8	25.5	20.1
14 years 11 months.....	23.9	26.6	21.1
15 years.....	25.1	27.9	22.2
15 years 1 month.....	26.4	29.2	23.6
15 years 2 months.....	27.6	30.6	24.5
15 years 3 months.....	28.4	31.5	25.3
15 years 4 months.....	29.2	32.4	26.0
15 years 5 months.....	30.0	33.2	26.7
15 years 6 months.....	30.7	34.1	27.3
15 years 7 months.....	31.2	34.5	27.8
15 years 8 months.....	31.4	34.8	28.1
15 years 9 months.....	31.7	35.0	28.3
15 years 10 months.....	31.7	35.0	28.4
15 years 11 months.....	31.8	35.0	28.6
16 years.....	31.8	35.0	28.6

¹ See Appendix, Table XII, p. 56.

A comparison with the proportion of children in Connecticut 14 and 15 years of age who were employed at the date of the census of 1910 may be made in the following way:

In 1910, 6,121 boys and 4,548 girls, or 10,689 children, 14 and 15 years of age were engaged in gainful occupations. Of this number, 1,468 were reported as newsboys, servants, or engaged in agricultural occupations, for which under the Connecticut law of 1911 employment certificates were not required. Assuming, therefore, that there

² See Appendix for method of computation. Adjustment has been made for the error arising from migration and other cases of pseudo-unemployment. Also see pp. 60-65 for general discussion of the margin of error.

were about 9,221 children in occupations for which certificates were required at the time of this study, approximately 24.5 per cent of the total of 37,680 children 14 and 15 years of age, April 15, 1910, were gainfully occupied in industrial pursuits. A comparable percentage can be derived from the figures of this study by taking the average proportion employed between the fourteenth and sixteenth birthdays. This gives approximately 24 per cent (average of 17.3 per cent and 30.7 per cent) gainfully employed in these occupations. Evidently the proportion gainfully occupied of this group was approximately the same as that shown by the census of 1910, since the difference, in view of the roughness of the estimate, can not be considered significant.

In this connection it should be mentioned that the figures indicate that little or no change in the amount of child employment occurred as a result of the changes in the law from that applicable at the date of the census in 1910. These changes introduced the system of certificate and promise of employment for each position for children between 14 and 16 years of age, increased the educational requirements, and in a few occupations raised the minimum age of employment to 16 and 18 years of age.⁹

⁹ Acts of 1911, ch. 119, sec. 2; ch. 123, sec. 1; ch. 123, sec. 2 as amended by acts of 1915, ch. 195; ch. 123, sec. 3.

INDUSTRIAL HISTORY OF CHILDREN.

EMPLOYMENT.

Industry of first position.

The distribution of the children according to the industry in which they were first employed is shown in Table III. Out of 7,147 children, 5,342, or 74.7 per cent, were first employed in manufacturing and mechanical industries; 1,233, or 17.3 per cent, were employed in trade; 147 in transportation; 67 in personal and domestic service; and 78 in other industries; in 280 cases the industry was not reported. Among the manufacturing and mechanical industries the metal industry ranked first, with 2,068 children employed; textile manufacture second, with 1,498; and the clothing industry third, with 616 children.

This distribution by industries probably corresponds roughly to the opportunities open to children in Connecticut. It would be of interest to show the exact processes at which the children were employed. The actual work done may be approximately of the same character in all the industries considered, that is, it may consist largely in running errands, rendering clerical assistance, or acting as more or less unskilled helpers; but the employment-certificate records do not give details as to the actual work done. Such details would be of especial value as showing whether the occupations were in general merely children's work, or whether they might eventually lead to permanent positions.

TABLE III.—*Industry of first employment, by sex: Number and per cent distribution of boys and girls, by industry of first employment.*

Industry of first employment.	Children.		Boys.		Girls.	
	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.
All industries.....	7,147	100.0	4,000	100.0	3,147	100.0
Manufacturing and mechanical industries.....	5,342	74.7	2,838	71.0	2,504	79.6
Metal.....	2,068	28.9	1,404	35.1	664	21.1
Textiles.....	1,498	21.0	663	16.6	835	26.5
Clothing.....	616	8.6	185	4.6	431	13.7
Food products.....	107	1.5	46	1.2	61	1.9
Wood products.....	177	2.5	45	1.1	132	4.2
Leather goods.....	70	1.0	48	1.2	22	0.7
Chemical products.....	62	0.9	24	0.6	38	1.2
Bone products.....	164	2.3	85	2.1	79	2.5
Clay products.....	42	0.6	29	0.7	13	0.4
Rubber goods.....	108	1.5	48	1.2	60	1.9
Electrical goods.....	237	3.3	117	2.9	120	3.8
Printing.....	92	1.3	72	1.8	20	0.6
Other.....	101	1.4	72	1.8	29	0.9
Trade.....	1,233	17.3	711	17.8	522	16.6
Transportation.....	147	2.1	143	3.6	4	0.1
Personal and domestic service.....	67	0.9	39	1.0	28	0.9
Other.....	78	1.1	66	1.7	12	0.4
Not reported.....	280	3.9	203	5.1	77	2.4

TABLE IV.—*Industry of first employment, by age at first employment: Number and per cent distribution of children of specified age at first employment, by industry of first employment certificate.*

Industry of first employment.	Children at first employment aged—											
	14-14½					14½-16						
	Total.		14-14½		14½-14½		14½-15		15-15½		15½-16	
	Num-ber.	Per cent distribution.	Num-ber.	Per cent distribution.	Num-ber.	Per cent distribution.	Num-ber.	Per cent distribution.	Num-ber.	Per cent distribution.	Num-ber.	Per cent distribution.
All industries.....	3,522	100.0	2,476	100.0	1,046	100.0	1,721	100.0	1,341	100.0	563	100.0
Manufacturing and mechanical industries.....	2,671	75.8	1,904	76.9	767	73.3	1,282	74.5	978	73.0	411	73.0
Metal.....	1,029	29.2	709	28.6	320	30.6	509	29.6	356	26.5	174	30.9
Textiles.....	744	21.1	547	22.1	197	18.8	361	21.0	282	21.0	111	19.7
Clothing.....	321	9.1	243	9.8	78	7.5	139	8.1	114	8.5	42	7.5
Food products.....	53	1.5	35	1.4	18	1.7	27	1.6	23	1.7	4	0.7
Wood products.....	94	2.7	72	2.9	22	2.1	31	1.8	38	2.8	14	2.5
Leather goods.....	46	1.3	35	1.4	11	1.1	17	1.0	5	0.4	2	0.4
Chemical products.....	20	0.6	13	0.5	7	0.7	14	0.8	21	1.6	7	1.2
Bone products.....	90	2.6	76	3.1	14	1.3	36	2.1	33	2.5	6	0.9
Clay products.....	22	0.6	14	0.6	8	0.8	7	0.4	8	0.6	5	0.9
Rubber goods.....	45	1.3	27	1.1	18	1.7	32	1.9	19	1.4	12	2.1
Electrical goods.....	128	3.6	94	3.8	34	3.3	50	2.9	42	3.1	17	3.0
Printing.....	43	1.2	24	1.0	19	1.8	24	1.4	17	1.3	8	1.4
Other.....	36	1.0	15	0.6	21	2.0	35	2.0	20	1.5	10	1.8
Trade.....	611	17.3	425	17.2	186	17.8	301	17.5	227	16.9	94	16.7
Transportation.....	76	2.2	55	2.2	21	2.0	32	1.9	27	2.0	12	2.1
Personal and domestic service.....	40	1.1	31	1.3	9	0.9	12	0.7	11	0.8	4	0.7
Other.....	29	0.8	13	0.3	16	1.5	24	1.4	18	1.3	7	1.2
Not reported.....	95	2.7	48	1.9	47	4.5	70	4.1	80	6.0	35	6.2

Industry of first position, and sex.—Table III shows that the type of first employment varies considerably with the sex of the child worker. The per cent of boys as well as the actual number found in the metal industries is much larger than that of girls, although the group of girls in these industries numbers 664. More girls than boys, in absolute figures as well as relatively, were employed in textile manufacture and in the clothing industries, the latter including corset manufacture, hat making, etc. Owing to the preponderance of girls in the textile and clothing industries especially, relatively more girls than boys were employed in the group of manufacturing and mechanical industries as a whole. On the other hand, relatively more boys were employed in trade, transportation, and in personal and domestic service; the number employed in the last-mentioned group is small, and probably includes but a small proportion of the children actually at work in personal and domestic service, since employment certificates are not required for housework.

Industry of first employment, and age.—The industries chosen by children entering employment at different ages are shown in Table IV. There is evidently very little difference in the choices of the

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ration of first position as affected by industry.—The character of industry in which the child is employed is likely to have some influence upon the duration of employment. The nature of the work may be such that not all the applicants who are given positions can satisfy the requirements; or perhaps the boys and girls who accept positions in certain industries do not like the work. Table VI shows that the metal, textile, and clothing industries and trade are the industries employing children in the group under consideration. According to this table, the textile industry seems to have the greatest success in keeping the children permanently. Forty-six per cent of children whose first position was in textile industries were still in the same position one year and nine months later. This percentage may be contrasted with 28 per cent in trade, 23 per cent in the metal industries, and 25 per cent in clothing manufacture. Further evidence showing the same tendency is the fact that only 22 per cent of children employed in the textile industry on their first positions within the first three months, as contrasted with 36 per cent in trade, 39 per cent in metal industries, and 39 per cent in clothing manufacture.

INDUSTRIAL INSTABILITY OF CHILD WORKERS.

Duration of first employment and sex.	All children.			Manufacturing and mechanical industries.										Trade.			All other.			Not reported.
	Total.			Metal.		Textile.		Clothing.		All other.		Per cent dis-tribu-tion.		Per cent dis-tribu-tion.		Per cent dis-tribu-tion.				
	Num-ber.	Per cent dis-tribu-tion.		Num-ber.	Per cent dis-tribu-tion.	Num-ber.	Per cent dis-tribu-tion.	Num-ber.	Per cent dis-tribu-tion.	Num-ber.	Per cent dis-tribu-tion.	Num-ber.	Per cent dis-tribu-tion.	Num-ber.	Per cent dis-tribu-tion.	Num-ber.	Per cent dis-tribu-tion.			
All children.....	2,476	100.0		1,904	100.0	709	100.0	547	100.0	243	100.0	405	100.0	425	100.0	99	100.0	48	100.0	
Less than 3 months.....	852	34.4		634	33.3	274	38.6	118	21.6	94	38.7	148	36.5	153	36.0	55	55.6	10	20.8	
Under 1 month.....	385	15.5		296	14.0	124	17.5	41	7.5	40	16.5	61	15.1	84	19.8	28	28.3	7	14.6	
1 month but under 2.....	273	11.0		209	11.0	90	12.7	36	6.6	36	14.8	47	11.6	45	10.6	17	17.2	2	4.2	
2 months but under 3.....	194	7.8		159	8.4	60	8.5	41	7.5	18	7.4	40	9.9	24	5.6	10	10.1	1	2.1	
3 months but under 6.....	326	13.2		256	13.4	106	15.0	56	10.2	28	11.5	66	16.3	55	12.9	9	9.1	6	12.5	
6 months but under 9.....	187	7.6		147	7.7	62	8.7	34	6.2	20	8.2	31	7.7	32	7.5	8	8.1			
9 months but under 12.....	136	5.5		108	5.7	43	6.1	32	5.9	15	6.2	18	4.4	24	5.6	3	3.0	1	2.1	
12 months but under 15.....	103	4.2		78	4.1	24	3.4	25	4.6	11	4.5	18	4.4	20	4.7	5	5.1			
15 months but under 18.....	65	2.6		56	2.9	17	2.4	16	2.9	7	2.9	16	4.0	7	1.6	1	1.0			
18 months but under 21.....	44	1.8		39	2.1	15	2.1	8	1.5	5	2.1	11	2.7	5	1.2					
21 months and over.....	734	29.6		569	29.9	161	22.7	253	46.3	60	24.7	95	23.5	120	28.2	17	17.2	28	58.3	
Not reported.....	29	1.2		17	.9	7	1.0	5	.9	3	1.2	2	.5	9	2.1	1	1.0	2	4.2	
Boys.....	1,385	100.0		997	100.0	497	100.0	230	100.0	59	100.0	211	100.0	275	100.0	80	100.0	33	100.0	
Less than 3 months.....	530	38.3		373	37.4	203	40.8	86	25.2	28	47.5	84	39.8	106	39.3	43	53.8	6	18.2	
Under 1 month.....	249	18.0		162	16.2	96	19.1	22	9.6	12	20.3	33	15.6	62	22.5	21	26.3	4	12.1	
1 month but under 2.....	170	12.3		125	12.5	60	13.9	16	7.0	11	18.6	29	13.7	31	11.3	13	16.3	1	3.0	
2 months but under 3.....	111	8.0		86	8.6	39	7.8	20	8.7	5	8.5	22	10.4	15	5.5	9	11.3	1	3.0	
3 months but under 6.....	191	13.8		140	14.0	78	15.7	24	10.4	6	8.5	33	15.6	40	14.5	6	7.5	6	18.2	
6 months but under 9.....	102	7.4		79	7.9	42	8.5	14	6.1	8	13.6	16	7.1	11	3.9	3	3.6	1	3.0	
9 months but under 12.....	74	5.3		53	5.3	22	4.4	11	4.7	1	1.7	10	4.7	1	1.1	1	1.1	1	3.0	
12 months but under 15.....	47	3.4		33	3.4	12	2.4	11	4.7	1	1.7	10	4.7	1	1.1	1	1.1	1	3.0	
15 months but under 18.....	29	2.1		22	2.2	10	2.0	11	4.7	1	1.7	10	4.7	1	1.1	1	1.1	1	3.0	

18 months but under 21.....	22	1.6	19	1.9	10	2.0	2	.9	1	1.7	6	2.8	2	1.1	14	17.5	19	57.6
12 months and over.....	373	26.9	265	26.6	101	20.3	103	44.8	11	18.6	50	28.7	75	27.3	7	36.8	3	20.0
Not reported.....	16	1.2	9	.9	4	3.8	2	.9	3	5.1	.....	.....	5	1.8	1	1.3	1	3.0
Girls.....	1,091	100.0	907	100.0	212	100.0	317	100.0	184	100.0	194	100.0	150	100.0	19	100.0	15	100.0
Less than 3 months.....	322	29.5	261	28.8	71	33.5	60	18.9	66	35.9	64	33.0	45	30.0	12	63.2	4	28.7
Under 1 month.....	136	12.5	104	11.5	29	13.7	19	6.0	28	15.2	28	14.4	22	14.7	7	36.8	3	20.0
1 month but under 2.....	103	9.4	84	9.3	21	9.9	20	6.3	25	13.6	18	9.3	14	9.3	4	21.1	1	6.7
2 months but under 3.....	83	7.6	73	8.0	21	9.9	21	6.6	13	7.1	18	9.3	9	6.0	1	5.3	.....	.....
3 months but under 6.....	135	12.4	116	12.8	28	13.2	32	10.1	23	12.5	33	17.0	15	10.0	3	15.8	1	6.7
6 months but under 9.....	85	7.8	68	7.5	20	9.4	20	6.3	12	6.5	16	8.2	17	11.3	.....	.....	.....	.....
9 months but under 12.....	62	5.7	55	6.1	11	5.2	21	6.6	14	7.6	9	4.6	7	4.7	.....	.....	.....	.....
12 months but under 15.....	56	5.1	43	4.7	8	3.8	14	4.4	10	5.4	11	5.7	12	8.0	1	5.3	.....	.....
15 months but under 18.....	35	3.2	32	3.5	6	2.8	11	3.5	6	3.3	9	4.6	3	2.0	.....	.....	.....	.....
18 months but under 21.....	22	2.0	20	2.2	5	2.4	6	1.9	4	2.2	5	2.6	2	1.3	.....	.....	.....	.....
21 months and over.....	361	33.1	304	33.5	60	28.3	150	47.3	49	28.6	45	23.2	45	30.0	3	15.8	9	60.0
Not reported.....	13	1.2	8	.9	3	1.4	3	.9	.....	.....	2	1.0	4	2.7	.....	.....	1	6.7

TABLE VIII.—Number and per cent distribution of boys and girls holding specified number of positions: Children with work histories from 21 to 24 months.

Number of positions.	Boys.		Girls.	
	Number	Percent distribution.	Number	Percent distribution.
11	2,453	29.9	1,386	26.1
12	439	21.5	432	26.2
13	429	25.4	339	24.6
14	437	27.7	262	18.7
15	269	11.1	154	11.1
16	106	4.3	10	7.2
17	69	2.8	45	3.2
18	39	1.6	36	2.2
19	21	.8	14	1.1
20	15	.6	9	.7
21	12	.5	11	.8
22	4	.2	4	.3
23	2	.1	2	.1
24	1	.0	1	.0

* Less than one-half of 1 per cent.

Steadiness of work.

In Table IX an attempt has been made to classify children on the basis of their steadiness or unsteadiness at work. For this purpose only the children who had work histories of from 21 to 24 months were taken. This procedure eliminates the difficulty which would arise in attempting to classify children who had worked only short periods, and, further, it insures that the group of unsteady workers will include only children who repeatedly changed positions. Children who had but one position during their entire work histories of 21 to 24 months may be classed as steady workers; those who held eight or more positions during this period are designated as "unsteady"; while those who had either two or three positions and the group holding from four to seven positions are intermediate classes. This classification is made solely for the purpose of the children. Certainly the reason for unsteadiness in the first year and in the changes of position may be in part in the industrial situation and in the personal preferences of the children, as well as in any characteristic weakness or instability at work. Indeed, it is only in the groups where the shifts of position are frequent that there is reason to make personal characteristics of the children, such as fickleness or inability to perform work satisfactorily, the determining reasons for the shifting from job to job.

The first group represents the extent to which children entering the industrial world secured ultimate positions such as were satisfactory to them and in which they performed satisfactory work. It includes children who had held good positions and did not care to change as well as those who did not leave their first job but were secure holding better. It includes good workers who were in the

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TABLE IX.—*Number and per cent distribution of boys and girls by average duration of position: Children with work histories 21 to 24 months.*

Average duration of position.	Children.		Boys.		Girls.	
	Num-ber.	Per cent distri-bution.	Num-ber.	Per cent distri-bution.	Num-ber.	Per cent distri-bution.
All classes.....	2,476	100.0	1,385	100.0	1,091	100.0
1 position only: 1 year or over.....	836	33.8	432	31.2	404	37.0
2 or 3 positions: 6 months but less than 1 year.....	1,068	43.1	580	41.9	488	44.7
4 to 7 positions: 3 months but less than 6.....	517	20.9	328	23.7	189	17.3
8 or more positions: Less than 3 months.....	55	2.2	45	3.2	10	.9

Further evidence that boys shift relatively more than girls is obtained by comparing for all the children employed the total number of positions terminated with the total number of months when they were actually at work. The rate of termination of positions as thus found can be used to compare the relative steadiness of work in the two sexes.¹⁰

The total number of positions terminated was 9,057—5,718 held by the boys and 3,339 held by the girls. The total number of months of work time, after all periods of unemployment are subtracted, was 99,120—54,630 months for the boys and 44,490 for the girls. In the entire group a position was terminated for every 10.9 months of work. For the boys a position was terminated on the average for every 9.6 months of actual work, while for the girls a position was terminated on the average for every 13.3 months of work. The boys show a decidedly greater tendency to shift than the girls.

Interval between positions.

The interval between positions was defined as the period between the date of the termination notice of one position and the date of the beginning notice of the next. The records showed 7,679 intervals coming clearly under this definition. There were also on the records a number of terminated positions not followed by any other position before the sixteenth birthday. It is estimated that 595 of these were cases of true unemployment lasting until the record ceased with the sixteenth birthday.¹¹ This gives a total of 8,274 intervals.

In the provisions for the enforcement of the certificate requirements a certain leeway is allowed. A child is permitted to work one week on the parent's copy of his first certificate. Within a week, however, a new certificate must be secured for the new position. The parent's copy is clearly marked "Not good for employer longer than one week."

¹⁰ This figure can not be used as an average duration of positions but is probably an understatement of it, since many even of the first positions held by the children had not terminated at the end of the work histories.

¹¹ For the reasons why an estimate is necessary, and for the basis of the estimate, see p. 27, and Appendix, pp. 41-53.

Thus the record may show an interval of one week or less between positions when perhaps there has been really no break at all in the continuity of the child's employment, or he has secured his second position within a few days after leaving the first. Intervals of less than one week, therefore, are not counted as cases of unemployment. There were 2,948 of these intervals. In addition, 148 cases were found in which a termination notice between two beginning notices was missing from the record and consequently the interval between positions was not reported.¹² These were classified, in lieu of satisfactory evidence to the contrary, as changes in positions without intervening unemployment—a procedure which seems the more justified since on the one hand in many if not in most of these cases the interval between positions was less than one week and on the other it gives a more conservative statement of the amount of unemployment. In these 3,096 cases there was practically no unemployment; the children either went from one position to another directly, or else were able to secure a second position very soon after leaving the first.

To find the proportion of cases where the termination of a position is followed by the acceptance of another position within a week's time, the number of cases in which there was no unemployment between positions should be compared with the total number of intervals. Of the total of 8,274 cases, in some 3,096, or 37.4 per cent, the children found other positions with intervals of less than a week. The percentages for boys and for girls were almost exactly the same, 37.2 and 37.9, respectively.

UNEMPLOYMENT.

Unemployment as used in the following discussion is defined as a period of one week or over between the date of a termination notice and that of the next beginning notice or the sixteenth birthday; and its duration is measured by the period between termination and beginning notices.

Of the total of 7,147 children, over half, 3,639, had no periods of unemployment. Of the remaining children, 2,035 had only one period, 895 had two, 341 had three, and 237 had four or more periods each. But these proportions are not of especial significance since many of the work histories were relatively short.

For the longer and therefore more significant work histories the proportions are given in Table X. Of the 2,476 children who went to work between the ages of 14 and 14½ years, 1,021, or 41.2 per cent, had not had any period of unemployment up to the time their work records ended. Relatively there were fewer boys in this group than girls; or, stating it in other words, a larger proportion of the boys

¹² No cases were found of the omission of a beginning notice between two termination notices.

than of the girls was unemployed at least once. Moreover, 121 of the boys, or 8.7 per cent, had four or more periods of unemployment each, as contrasted with 37, or 3.4 per cent, of the girls.

TABLE X.—*Boys and girls with work histories of 21 to 24 months, having specified number of periods of unemployment.*

Number of periods of unemployment.	Children.		Boys.		Girls.	
	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.
Total.....	2,476	100.0	1,385	100.0	1,091	100.0
None.....	1,021	41.2	519	37.5	502	46.0
1.....	662	27.0	381	27.5	311	28.5
2.....	422	17.0	250	18.1	172	15.8
3.....	183	7.4	114	8.2	69	6.3
4.....	90	3.7	64	4.6	26	2.4
5.....	34	1.4	26	1.9	8	.7
6.....	19	.8	18	1.3	1	.1
7.....	10	.4	9	.6	1	.1
8.....	1	.1	1	.1	.....	.....
9.....	2	.1	2	.1	1	.1
10.....	.....	.....	.....	.....	.....	.....
11.....	.....	.....	.....	.....	.....	.....
12.....	1	.....	1	.1	.....	.....

Pseudo-unemployment.

A difficulty with the interpretations of the figures for unemployment as defined above is that the cases of apparent unemployment which were still unterminated at the sixteenth birthday may or may not have been true unemployment. During the course of the investigation, it was found that on a few records notations had been made, such as "Returned to school," "Sent to reform school." But such entries were more or less accidental and confined to the few cases in which the issuing officer knew and recorded the report of a school-attendance officer on the case. For only a small proportion of the children who terminated their employment for these or similar reasons would such entries have been made. Most of the children who died, who left the State, or who went to work in some occupation that did not require a certificate, as well as most of those who returned to school, would appear on the records merely as having terminated employment and as "not employed" at their sixteenth birthdays. Since it was impossible to determine which children of those whose records indicated they were not employed at 16 were really unemployed and which had left the State, etc., no specific cases could be excluded; but the number of cases of pseudo-unemployment has been estimated by a method described in the appendix; and the figures given in the following pages for unemployment rates have been corrected to eliminate the error arising from the inclusion of these cases of pseudo-unemployment.¹³

¹³ See Appendix, pp. 41-53. The uncorrected figures are also given in the Appendix.

The complete analysis of pseudo-unemployment referred to indicates that cases of pseudo-unemployment are somewhat more likely to occur toward the sixteenth birthday, and that they form an increasing percentage of the cases of apparent unemployment that occur as the children approach 16. A plausible explanation of this lies in the probability that there is greater difficulty in enforcing the certificate requirements as the children grow older and can more easily persuade employers that they have already passed 16 years of age. They have an advantage in doing this, since the restrictions on hours are removed for workers over 16 and they can therefore secure higher wages.

There are also a few cases of unemployment even among those which were terminated before the sixteenth birthday which are not true unemployment. But while it is possible to estimate the number of cases of pseudo-unemployment which resulted in the children's appearing as not employed at 16, there is no method of estimating the number of cases of unemployment terminated before the sixteenth birthday which were due to the same causes. In a few cases, for example, a child who had been at work for a short time might discover that he did not like work as well as school; if he returned to school but quit and went to work again before he was 16 the interval between the termination notice of one position and the beginning notice of the next would appear on the record in exactly the same form as a period of true unemployment of the same length. The number of such cases, however, is probably small, since children who worked only during vacations were excluded and children who lose school time fall behind in their grades and are not apt to return to school. The same effect on the record would occur if a child left the State for a time and then returned and took out a new certificate before his sixteenth birthday. No correction can be made for these cases. It is realized, therefore, that the definition of unemployment as given above results in the inclusion of a few periods during which children, though not at work according to the records, were not in the ordinary sense unemployed.

Monthly rate of unemployment.

The rate of unemployment, or the number of new cases of unemployment per 100 children at work at the beginning of the month, is shown in the following table for the different months of work history. The rates are found by dividing the number of cases of unemployment which occurred in a month by the number of children at work at the beginning of the month and whose work histories lasted through the month.

The monthly rate of becoming unemployed decreases from 9.1 per cent in the first month of work history to 5.9 in the fourth, 5.4 in the seventh, and 4.7 in the thirteenth—i.e., after 3, 6, and 12 months

of work respectively—and finally to 2.3 in the twenty-third month, or after 22 months of work history.

TABLE XI.—*Monthly rate of unemployment, by sex: Number of new cases of unemployment in specified month of work history per 100 children at work at beginning of month.*

Month of work history.	Cases of unemployment per 100 at work at beginning of month.		
	Children.	Boys.	Girls.
First.....	9.1	10.1	7.9
Second.....	7.7	8.8	6.2
Third.....	7.5	8.2	6.7
Fourth.....	5.9	6.4	5.2
Fifth.....	5.2	6.3	3.9
Sixth.....	5.0	5.9	4.0
Seventh.....	5.4	6.3	4.4
Eighth.....	5.3	6.3	4.2
Ninth.....	5.3	6.0	4.5
Tenth.....	4.8	5.8	3.6
Eleventh.....	4.6	5.4	3.6
Twelfth.....	4.2	4.7	3.5
Thirteenth.....	4.7	5.5	3.8
Fourteenth.....	4.7	5.3	3.9
Fifteenth.....	4.2	5.1	3.1
Sixteenth.....	4.2	4.8	3.5
Seventeenth.....	3.6	4.2	2.9
Eighteenth.....	3.3	3.8	2.8
Nineteenth.....	3.8	3.8	3.8
Twentieth.....	3.4	3.9	2.9
Twenty-first.....	2.9	3.7	2.0
Twenty-second.....	2.4	3.1	1.6
Twenty-third.....	2.3	2.4	2.0

The trend of these percentages is what one might expect from a priori considerations. It would be expected that children just beginning work would in many instances not find immediately positions which suited them or to which they were suited. With experience they would not only tend to gravitate to suitable positions, but would become more reconciled to the discipline to which they find themselves subjected in industry as well as in school. The longer they remain in industry the more they become accustomed to regular routine, and usually they gradually settle down to steady work. It should be remembered in this connection that these figures do not represent all changes of positions, but exclude all those in which a change was made with an interval of less than one week, and hence practically all cases in which children changed because of definite offers of better positions. They therefore include only cases in which the child either quit voluntarily without knowing what he was going to do next or was discharged because of inefficiency or because he was no longer needed—many positions are temporary or seasonal. The more experience children have the less likely they are to leave their positions of their own volition before securing new ones. From the employer's point of view, on the other hand, chil-

dren probably become more and more satisfactory in their work and more and more useful. Both these causes of unemployment, therefore—voluntary leaving of positions by children before they have secured others and dismissals on account of unsatisfactory work—tend to decrease as the length of work history increases.

Monthly rate of unemployment, and sex.—The monthly rate of becoming unemployed is higher at all periods of work history for boys than for girls. In the first month of work, 10.1 per cent of the boys became unemployed as contrasted with 7.9 per cent of the girls. After three months of experience, the rates have fallen, respectively, to 6.4 and 5.2, but the boys still show a greater tendency to be unemployed than the girls. In the thirteenth month, the rates are 5.5 and 3.8; in the twenty-third, they are 2.4 and 2, respectively.

This showing is similar to that already brought out, that the boys have a larger proportion of unsteady workers than the girls. These figures also show that the greater shifting in employment of the boys is due both to greater readiness to change positions and to more cases of unemployment.

The difference in the mental attitude to their work and in the psychology of the two sexes may account for this difference in rate. It may also be suggested that the boys' occupations are frequently quite different from the occupations of men, and that their work often does not lead to anything better. Again, some positions may involve too heavy work, or in some the employers may expect too much of them. All these would be causes of discontent and restlessness. The boys have, too, a much greater variety of work open to them. The girls' occupations, on the other hand, do not differ so much from those of older girls, and they would be, therefore, less likely to be restless and dissatisfied with their work.

Monthly rate of unemployment, and age at commencing work.—An analysis by age at going to work shows that the monthly rate of unemployment is somewhat higher in corresponding months of work history for children who began work when 14 but less than 15 years of age than for children who began work when 15 but less than 16 years of age. The number of cases of unemployment per 100 children employed at the beginning of the month, originating in each month of work history up to the tenth, is shown in Table XII. Comparing these rates month by month, 9.4 per cent of the children who started work between the fourteenth and fifteenth birthdays became unemployed within a month after they had commenced work as contrasted with 8.3 per cent of the children who began work between the fifteenth and sixteenth birthdays. In the tenth month of work history the percentages were 5 for the younger group as contrasted with 3.1 for the group commencing work at the later age. The difference is due probably in part to the fact that the children who

began work at the later age are somewhat more mature and are therefore less likely to change positions before securing new ones and, at the same time, are better able to satisfy their employers.

TABLE XII.—*Monthly rate of unemployment, by age at going to work: Number of new cases of unemployment in specified month of work history per 100 children at work at beginning of month, separately for children aged 14 but under 15, and children aged 15 but under 16 at first commencing work.*

Month of work history.	Cases of unemployment per 100 at work at beginning of month.		Month of work history.	Cases of unemployment per 100 at work at beginning of month.	
	Children beginning work aged 14 but under 15.	Children beginning work aged 15 but under 16.		Children beginning work aged 14 but under 15.	Children beginning work aged 15 but under 16.
First.....	9.4	8.3	Sixth.....	5.5	3.2
Second.....	8.1	6.4	Seventh.....	5.7	4.0
Third.....	8.0	6.4	Eighth.....	5.7	3.7
Fourth.....	5.9	5.6	Ninth.....	5.5	4.1
Fifth.....	5.5	4.2	Tenth.....	5.0	3.1

A comparison of the difference between the rates for the two age groups and the rates for the different periods of work history shows clearly that length of industrial experience is a factor as well as age in the rate of unemployment. In both age groups the rate of unemployment decreases rapidly as the length of work history, that is, as the children's experience, increases. In the early months of work history, for all children under 16, industrial experience appears to be a more important factor than age at beginning work, since the monthly rate of unemployment shows a much greater variation with the different lengths of work history than with the different ages.

It scarcely needs to be emphasized that the initial monthly rate of becoming unemployed of 9.1 per 100 children is very high. A better idea of the amount of unemployment which this represents may be gained by expressing it in terms of the percentage of children constantly unemployed. If, in a group of children, 9.1 per cent of those at work became unemployed in each month of work history, the number of children unemployed would gradually increase until the number of cases of unemployment ending in a month equaled the number of new cases that began. According to the duration of periods of unemployment found for the group studied, a rate of 9.1 per cent would mean, after the initial period of an increasing proportion of children unemployed, a constant percentage of unemployment of 19, or nearly one-fifth of the children constantly unemployed. Similarly the rate of unemployment of 2.3 prevailing just before the sixteenth birthday would mean a constant percentage unemployed of approximately 5.6, or about one-twentieth of the children.¹⁴

¹⁴ See Appendix, pp. 56-57.

Duration of unemployment.

The duration of unemployment is shown in Table XIII. A full explanation of the method of computation is given in the appendix. It is found that 44.3 per cent of the periods of unemployment last less than a month, an additional 19.1 per cent less than two months, and an additional 9 per cent less than three months, making a total of 72.4 per cent of all periods lasting less than three months. The approximate average duration of unemployment is found to be slightly over two months and a half. The median duration falls between one and two months.

Duration of unemployment, and sex.—An analysis of the duration of periods of unemployment by sex shows that the average period of unemployment is very slightly shorter for boys than for girls. Forty-five per cent of the periods of unemployment for boys were ended within the first month as compared with 43 per cent for girls. The average duration of unemployment for boys was 2 months and 18 days and for girls 2 months and 21 days. These differences are not, however, of particular significance. They might be due to a greater tendency of girls to stay at home and help with the housework or to the fact that boys have a greater variety of possible employments.

TABLE XIII.—*Duration of unemployment, by sex.*

Duration of unemployment.	Per cent distribution of cases of unemployment.		
	All children.	Boys.	Girls.
All durations.....	100.0	100.0	100.0
Less than 1 month.....	44.3	45.0	43.1
1 month but less than 2.....	19.1	18.9	19.4
2 months but less than 3.....	9.0	9.1	9.0
3 months but less than 4.....	6.3	6.3	6.5
4 months but less than 5.....	4.2	4.3	4.1
5 months but less than 6.....	3.9	3.5	4.3
6 months but less than 7.....	2.6	2.6	2.6
7 months but less than 8.....	2.3	2.2	2.3
8 months but less than 9.....	1.4	1.5	1.3
9 months but less than 10.....	1.5	1.4	1.6
10 months but less than 11.....	1.8	1.8	1.7
11 months but less than 12.....	.8	.6	1.3
12 months but less than 13.....	1.1	.9	1.1
13 months but less than 14.....	.3	.3	.1
14 months but less than 15.....	.3	.5	.2
15 months but less than 16.....	.1	.1	.2
16 months but less than 17.....	.5	.5	.6
17 months but less than 18.....	.2	.2	.3
18 months but less than 19.....	.1	.2	.....
19 months but less than 20.....	.....	.....	.....
20 months but less than 21.....	.....	.....	.....
21 months but less than 22.....	.....	.....	.....

Duration of unemployment in different parts of work history.—The relative duration of unemployment in the earlier and later parts of work history can be contrasted in cases of children who commenced

work between the fourteenth and fifteenth birthdays. Cases of unemployment of children in the group considered which began after passing the fifteenth birthday could be followed only until the sixteenth birthday, when the record ceases. To make the comparison, therefore, with the cases of unemployment which commenced prior to the fifteenth birthday, the relative distributions of the cases which terminated within 10 months are shown in Table XIV. Since causes tending to lengthen the duration of unemployment would tend to increase the percentages terminated with three, four, etc., months' duration as compared with those terminated in one or two months, the close correspondence of the percentages indicates that there is no appreciable difference in the duration of unemployment in the earlier and later parts of work history among these children.

TABLE XIV.—*Relative duration of unemployment of children aged 14 but under 15 at first employment, in early and late parts of work history.*

Duration of unemployment.	Per cent distribution of cases of unemployment terminated in 10 months among children aged 14 but under 15 at first employment.	
	Unemployment commenced in first 10 months of work history.	Unemployment commenced in thirteenth to twenty-second months of work history.
All durations less than 10 months.....	100.0	100.0
Less than 1 month.....	47.8	46.7
1 month but less than 2.....	20.4	19.9
2 months but less than 3.....	9.4	11.0
3 months but less than 4.....	6.6	6.9
4 months but less than 5.....	4.5	4.9
5 months but less than 6.....	3.8	3.0
6 months but less than 7.....	2.6	.4
7 months but less than 8.....	2.3	3.7
8 months but less than 9.....	1.3	
9 months but less than 10.....	1.4	

Duration of unemployment, and age at commencing work.—The average duration of unemployment for children who commenced work between the fourteenth and fifteenth birthdays can be compared with the average for those who commenced work between the fifteenth and sixteenth birthdays. Making the comparison again for the periods of less than 10 months' duration, the percentages in Table XV are found. The comparison indicates that the periods of unemployment are relatively somewhat shorter for the children who began work under 15 years of age.

A partial explanation may be that in a somewhat larger proportion of cases unemployment among the younger children is due to mere

restlessness; if in these cases the unemployment was of comparatively short duration it might tend to increase the proportion of cases which terminated within one or two months. A second explanation may lie in the fact that children who begin work at the age of 15 but less than 16 may include a larger number who would have gone to work at the age of 14 but for inability to fulfill the educational requirements for employment certificates, which in Connecticut require the completion of the seventh grade or the passing of an examination to show their educational qualifications. If the children who commenced work at later ages include a larger proportion of backward children, the periods of unemployment might include a larger proportion of cases where the incapacity of the child would make it difficult for him to secure another position.

TABLE XV.—*Relative duration of unemployment in first 10 months of work history, children aged 14 but under 15, and children aged 15 but under 16 at first employment.*

Duration of unemployment.	Per cent distribution of cases of unemployment terminated in 10 months	
	Children aged 14 but under 15 at first employment.	Children aged 15 but under 16 at first employment.
All durations less than 10 months.....	100.0	100.0
Less than 1 month.....	47.8	40.5
1 month but less than 2.....	29.4	21.2
2 months but less than 3.....	9.4	10.4
3 months but less than 4.....	6.6	8.3
4 months but less than 5.....	4.5	6.4
5 months but less than 6.....	3.8	5.2
6 months but less than 7.....	2.6	4.4
7 months but less than 8.....	2.3	3.4
8 months but less than 9.....	1.3	.....
9 months but less than 10.....	1.4	.....

Percentage of work histories spent in unemployment.

It is possible to estimate the percentage of the total work histories of these children which was spent in unemployment. The total number of months lived by the children after their first employment and before their sixteenth birthdays was 117,804; 9,606 months were spent in unemployment which ended before the sixteenth birthday. To this number should be added the number of months of true unemployment which had not terminated at the sixteenth birthday. This is estimated as 2,359,¹⁵ which, added to the figure just given, makes a total of 11,965 months. This means that 10.2 per cent of the total work histories of these children was spent in unemployment.

¹⁵ Derived from Appendix, Table VII, p. 49.

Significance of unemployment among children.

The significance of unemployment among children between 14 and 16 years of age is quite different from the significance of unemployment among adult workers, both in its attendant evils and its causes. Probably with children, as with adults, many cases of unemployment are due to causes over which the workers have no control. There are also cases in both groups in which the personal characteristics of the individual bring about his discharge. But the main significance of the figures presented on the unemployment of children lies in what they show of the gradual adjustment of child workers to industrial life; the rate of new cases of unemployment gradually decreases month by month, as the children become more used to the requirements and discipline of industry. Unemployment among heads of families means, for the most part, cessation of the family income; unemployment among children does not usually have such an implication. The amounts received by children are usually not of vital importance in meeting the needs of the family.

The evils attending long-continued unemployment among children lie in the greater danger they run of establishing bad habits, and in the utter waste of time which should be used to increase in some way the child's preparation for adult life. Children not at work and not in school are neither earning anything to justify their withdrawal from school, nor are they getting any training either from school or from industry. They may be half-heartedly searching for work, or they may be merely idle, and acquiring a distaste for work as well as school. Childhood is regarded by the State as a period of training; periods of unemployment, when the child is neither at work nor at school, represent so much of this training time wasted.

According to the Connecticut law a child between 14 and 16 years of age is required to attend school if not actually at work on an employment certificate.¹⁶ No adequate provision, however, is made by the school authorities—and the situation is similar in practically every State—for taking care of such cases. From the point of view of the educational authorities it is an administrative problem of considerable difficulty to determine what time should be allowed a child to hunt for a job, and how long unemployment may last before the child is required to report at school. Furthermore, it is difficult to keep track of these unemployed children and troublesome to have them in the regular classes in school. From the viewpoint of the best interests of the children, such education to be profitable should be especially adapted to their needs. But special classes for unem-

¹⁶ General Statutes, revision 1902, sec. 2116; Acts of 1903, ch. 29, as amended by Acts of 1905, ch. 36. Children of these ages lawfully employed at home and those whose parents are unable to provide suitable clothing, or whose physical or mental condition unfits them for school attendance, are, however, exempted.

ployed children are very difficult to furnish in an ordinary school system. Only a continuation school which the child is obliged to attend a certain number of hours a week when employed can meet his needs for educational facilities when unemployed. With such a system the problems both of administrative control and of educational training are greatly simplified, since the child attends the same school when unemployed or when employed.

SUMMARY AND CONCLUSIONS.

Employment certificates are issued in Connecticut to children between the ages of 14 and 16 at work in industrial occupations. The group whose fourteenth birthdays occurred between September 1, 1911, and September 1, 1912, was followed in the employment-certificate records from the fourteenth to the sixteenth birthdays. Seven thousand one hundred and forty-seven children out of an estimated population of 20,010 of this age were granted employment certificates. The proportion employed increased from 7.3 per cent in the month following the fourteenth birthday to 31.8 per cent on the sixteenth birthday. Nearly half the children who became employed between the ages of 14 and 16 were at work before 14½ years of age and half the remainder were at work before passing the fifteenth birthday. The percentage of boys employed before the sixteenth birthday was somewhat higher than that of girls, 35 per cent of the boys as contrasted with 28.6 per cent of the girls. On an average, for the two years of age considered, about 24 per cent were gainfully employed in industrial occupations.

Of the 7,147 children, 5,342, or 74.7 per cent, began work in manufacturing and mechanical industries; 28.9 per cent began work in metal industries, 21 per cent in textile industries, and 8.6 per cent in the manufacture of clothing. The first employment of 1,233, or 17.3 per cent, of the children was in trade; the first employment in the remaining cases was in various other industries.

Nearly 30 per cent of the children who commenced work between 14 years of age and 14 years and 3 months remained in the first position for more than a year and nine months, or practically until they were 16 years of age. On the other hand, over one-third left the position of first employment before the end of three months of work, and nearly one-sixth left within the first month. A somewhat smaller proportion of boys remained in their first position for a year and nine months than of girls, and a larger proportion of boys than of girls left the first position within three months. The children employed in the textile industries showed the longest periods of first employment and the lowest percentages of changes in the early months.

Measured by the number of positions in relation to the length of work history, the boys showed a somewhat larger proportion of unsteady workers than the girls, and a somewhat greater tendency to shift from one position to another. Children quitting work began new jobs immediately or in less than a week in approximately 37 per cent of the cases.

In the remaining cases a period of unemployment intervened. The monthly rate of unemployment, or the number of new cases of unemployment in the month of work history per 100 children employed at the beginning of the month, decreased from 9.1 in the first month to 2.3 in the twenty-third month. The boys showed a somewhat higher rate of unemployment than the girls, 10.1 as contrasted with 7.9 in the first month, 5.9 as compared with 4 in the sixth, and 2.4 as compared with 2 in the twenty-third month.

The average duration of cases of unemployment, defined as lasting one week or more, was approximately two months and a half, 44.3 per cent of all cases terminated within a month, and an additional 19.1 per cent before the end of the second month, with percentages rapidly decreasing after the second month.

Although unemployment among children is not so serious a problem from the point of view of family income as unemployment of the breadwinner, it has serious aspects in relation to the enforcement of the compulsory school law, and, what is of more importance, in regard to the formation of children's industrial habits.

The amount of information available on the records obviously limits the scope of any study based upon them. In Connecticut other items might be added without unduly burdening the certificate, notably the grade completed and the type of work or the occupation in which the child is to be employed. The grade completed is entered on the information card, but these cards are kept by the agents and are not filed in the office of the State board of education as the certificates are. If the child has a promise of employment, the employer must know the general character of the work he is to do, and could easily state this on the promise. This information would be especially valuable, if not essential, in case physical examinations for particular occupations were required; to determine that the work the child is to do will not be detrimental to his health, the examining physician must have some information in regard to the proposed occupation.

Other items which can not easily be placed on the certificate form itself would be of great interest for the purpose of a closer study of the conditions of child labor. The reason for leaving school and for leaving each position, the wages promised and received, the hours of work, time of work, exact duties and other points—all such items would afford much valuable material for study. These items are frequently placed on a separate information card; in some States information in regard to all the different positions held by a child is placed on a single card. If these cards, or copies of them, could be filed in some central place the material would be made easily accessible.

From the point of view of a statistical study of child labor based on certificate records, the most important single feature of administrative organization is the centralizing of records in a single office. Without this centralization such a study as this would have been impracticable if not impossible. This feature of the Connecticut organization makes possible the utilization of valuable record material. It would be a great gain if the data being collected in other States, now in many cases recorded and filed in many local offices, could be brought together in a central office which would keep and tabulate the information secured from the records for the entire State.

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APPENDIX.

METHOD OF PROCEDURE.

Since the use of the material available for this report presents several complicated problems, an explanation of the procedure and method of computation is given in the appendix.

Duration of unemployment.—The first of these problems concerns the duration of unemployment. The method may be stated more clearly by considering first the procedure applicable to a group of cases of unemployment, all of which could be followed until they ended. Suppose, for example, of 1,000 cases of unemployment, 443 terminate in the first month, 191 in the second, 90 in the third, 63 in the fourth, 42 in the fifth, and so on until all have terminated before the nineteenth month; then the series represents a percentage distribution of the cases by duration of unemployment.

In the material available for this study, however, it is not possible to follow all cases of unemployment until they terminate. After the sixteenth birthday the record ceases and the exact duration of cases untermiated at that time can not be ascertained. But without knowing how long such cases lasted, the percentages terminated with the different durations can be ascertained by dividing the inquiry into a series of partial inquiries. In the illustration given above it would be possible to state the percentage of cases of unemployment that terminated in the first month without knowing the percentage which terminated in any other month. The first partial inquiry, then, is into the proportion of cases which end within a month. This is found by following the records for one month after each case of unemployment and taking the percentage of cases of unemployment which terminated within that month. In case the period of unemployment commenced within less than a month of the sixteenth birthday, it has to be omitted, since it can not in all cases be followed to the end of the month to determine whether or not the period of unemployment terminated within the month.¹ The second inquiry is into the percentage of cases which end with a duration of one month but less than two. This is found by following for two months all cases of unemployment which began two months or more before the sixteenth birthday, and taking the

¹ In practice, owing to the fact that in tabulation time was measured from the beginning rather than from the end of the work history, periods of unemployment in each work history which commenced in the part of a month immediately preceding the sixteenth birthday, and also in the month immediately preceding this fractional month, were omitted from consideration. A similar procedure was followed in each of the other partial inquiries.

proportion of cases which terminated with a duration of one but less than two months. The percentage for each possible duration is calculated in a similar way, by taking the percentage of the cases of unemployment that could be followed for the length of time required for the case to terminate with the given duration which actually terminated with this duration.

The percentages thus calculated from cases actually terminated before the sixteenth birthday, and the numbers on which they are based, are shown in Table I.

TABLE I.—*Percentage of cases of unemployment terminated with specified duration.*

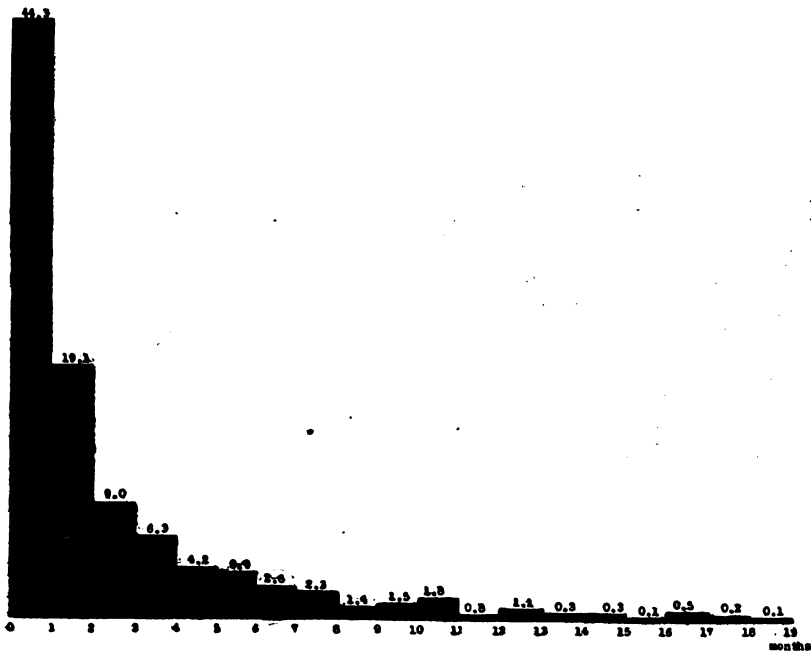
Duration of unemployment.	Cases of unemployment.			
	Which could have terminated with specified duration.	Terminated with specified duration.		
		Number.	Per cent.	Adjusted per cent.
Less than 1 month.....	5,683	2,197	38.7	44.3
1 month but less than 2.....	5,469	913	16.7	19.1
2 months but less than 3.....	5,227	414	7.9	9.0
3 months but less than 4.....	4,945	272	5.5	6.3
4 months but less than 5.....	4,662	174	3.7	4.2
5 months but less than 6.....	4,387	147	3.4	3.9
6 months but less than 7.....	4,107	95	2.3	2.6
7 months but less than 8.....	3,827	75	2.0	2.3
8 months but less than 9.....	3,524	43	1.2	1.4
9 months but less than 10.....	3,195	40	1.3	1.5
10 months but less than 11.....	2,868	45	1.6	1.8
11 months but less than 12.....	2,580	19	.7	.8
12 months but less than 13.....	2,279	22	1.0	1.1
13 months but less than 14.....	1,990	5	.3	.3
14 months but less than 15.....	1,737	6	.3	.3
15 months but less than 16.....	1,467	2	.1	.1
16 months but less than 17.....	1,210	5	.4	.5
17 months but less than 18.....	964	2	.2	.2
18 months but less than 19.....	731	1	.1	.1
19 months but less than 20.....	519			
20 months but less than 21.....	331			
21 months but less than 22.....	142			
Sum of the percentages.....			87.4	100.0

It will be observed that the percentages do not add to 100 as they would if a fixed number of cases of unemployment could be followed until they all terminated. If all the cases of unemployment in the group under consideration were true unemployment, the percentages would add to 100, since on this assumption the method of computation explained would secure a correct percentage terminated for each duration.² But the number of cases of unemployment which

² Except for the possibility that the percentages may be different in different parts of the work history. The percentages for the longer durations are based on cases of unemployment which originated relatively early in the longer work histories, while the percentages for the shorter durations are based on practically all cases of unemployment. If, then, the percentages for the shorter durations are smaller for cases originating shortly before the sixteenth birthday than for those originating some time before, they will tend to reduce the average percentages for the shorter durations without affecting those for the longer durations. The evidence discussed later indicates that the percentages for the shorter durations are somewhat smaller—that is, the average duration of unemployment is longer—for children who commenced work when 15 but under 16 than for those who commenced work when 14 but under 15 years of age. The amount of error arising from this cause is relatively negligible, since the group who commenced work when 15 but under 16 years of age includes but one quarter of the children with only one-eighth of the time employed.

appear in column 1 of the table include a certain proportion of cases where the child left the State, returned to school, went into an industry where employment certificates were not required, or died—these cases of pseudo-unemployment would never terminate so far as the record is concerned. In these contingencies the employer of the children sends in their termination notices in the usual way, and no further information concerning them is filed before their sixteenth birthdays. So far as the record shows there is no difference between this case and one in which a child is really unemployed for a time prior to his sixteenth birthday. All these cases of pseudo-unemployment

CHART II.—PERCENTAGE OF CASES OF UNEMPLOYMENT TERMINATED WITH SPECIFIED DURATION.



will appear as periods of unemployment unterminated at the sixteenth birthday.

The percentages in Table I are found by dividing the number of periods of unemployment of specified durations which actually terminated before the sixteenth birthday by the total number of cases which commenced at such time that they could have ended before the sixteenth birthday with the specified durations. Since the numerators of these fractions contain no cases of pseudo-unemployment but only those which have actually terminated, while the denominators contain all cases of apparent as well as true unemployment, all the percentages found will be reduced below the true percentages, and hence will not add to 100.

Expressing the number of periods of true unemployment by U , the number terminated in less than one month by T_0 , the number terminated in one but less than two months by T_1 , etc., and the percentages with specified duration by P with subscripts corresponding to those for T , then,

$$\frac{T_0}{U} = P_0$$

$$\text{and } P_0 + P_1 + P_2 + \dots = 100.$$

If the number of periods of unemployment including pseudo-unemployment is expressed by V , and the percentages found by dividing by V instead of by U are expressed by Q instead of P , and the factor, a , for pseudo-unemployment is defined as $V = U \cdot a$, then

$$\frac{T_0}{V} = Q_0; \frac{T_0}{U \cdot a} = Q_0, \text{ or } \frac{T_0}{U} = Q_0 \cdot a = P_0.$$

Hence,

$$(Q_0 + Q_1 + Q_2 + \dots) a = 100$$

$$a = \frac{100}{Q_0 + Q_1 + Q_2 + \dots}$$

In other words, assuming that all the denominators are affected by the same proportionate error,³ that is, that they represent the number of cases of real unemployment times a factor, a , the extent of the error—the factor, a —can be found by dividing 100 by the sum of the percentages given in Table I. This factor is found to be 1.144.

The percentages given in the text, Table XIII, have all been multiplied by the factor, a , or 1.144, to correct for the error arising from the cases of pseudo-unemployment. The percentages showing the duration of unemployment for each sex have been treated in a similar manner.

The figures showing the monthly rates of becoming unemployed also have to be corrected for the error arising from pseudo-unemployment. In this case, since the cases of pseudo-unemployment erroneously included appear in the numerators of the rate fractions—the number of new cases of unemployment divided by the number of children at work—the rates found have to be divided by 1.144 to give the corrected rates.

The only difficulty with this procedure is the error involved in taking an average percentage of pseudo-unemployment rather than a special correction for the different sexes, ages, and parts of work history. But it has the advantage of simplicity and of being derived from a relatively large base; the effect of the error resulting from this procedure on the conclusions reached will be discussed later. The distribution of the cases of pseudo-unemployment is also analyzed below.

³ For the error involved in this assumption, see pp. 52-53.

Tables II and III give the basic figures for the duration of unemployment for boys and girls, respectively, together with the original and the adjusted percentages.

TABLE II.—Percentage of cases of unemployment of boys terminated with specified duration.

Duration of unemployment.	Periods of unemployment of boys.			
	Total that could have ended in the specified duration.	Terminated with specified duration.		
		Number.	Per cent.	Adjusted per cent.
Less than 1 month.....	3,595	1,417	39.4	45.0
1 month but less than 2.....	3,467	577	16.6	18.9
2 months but less than 3.....	3,306	265	8.0	9.1
3 months but less than 4.....	3,136	171	5.5	6.3
4 months but less than 5.....	2,963	112	3.8	4.3
5 months but less than 6.....	2,808	88	3.1	3.5
6 months but less than 7.....	2,626	61	2.3	2.6
7 months but less than 8.....	2,451	47	1.9	2.2
8 months but less than 9.....	2,248	29	1.3	1.5
9 months but less than 10.....	2,044	24	1.2	1.4
10 months but less than 11.....	1,834	30	1.6	1.8
11 months but less than 12.....	1,649	9	.5	.6
12 months but less than 13.....	1,463	12	.8	.9
13 months but less than 14.....	1,280	4	.3	.3
14 months but less than 15.....	1,124	5	.4	.5
15 months but less than 16.....	950	1	.1	.1
16 months but less than 17.....	774	3	.4	.5
17 months but less than 18.....	609	1	.2	.2
18 months but less than 19.....	453	1	.2	.2
19 months but less than 20.....	332			
20 months but less than 21.....	211			
21 months but less than 22.....	84			
Sum of percentages.....			87.6	100.0

TABLE III.—Percentage of cases of unemployment of girls terminated with specified duration.

Duration of unemployment.	Periods of unemployment of girls.			
	Total that could have ended in the specified duration.	Terminated with specified duration.		
		Number.	Per cent.	Adjusted per cent.
Less than 1 month.....	2,088	780	37.4	43.1
1 month but less than 2.....	2,002	336	16.8	19.4
2 months but less than 3.....	1,921	149	7.8	9.0
3 months but less than 4.....	1,809	101	5.6	6.5
4 months but less than 5.....	1,699	62	3.6	4.1
5 months but less than 6.....	1,579	59	3.7	4.3
6 months but less than 7.....	1,481	34	2.3	2.6
7 months but less than 8.....	1,376	28	2.0	2.3
8 months but less than 9.....	1,276	14	1.1	1.3
9 months but less than 10.....	1,151	16	1.4	1.6
10 months but less than 11.....	1,034	15	1.5	1.7
11 months but less than 12.....	931	10	1.1	1.3
12 months but less than 13.....	816	10	1.2	1.4
13 months but less than 14.....	710	1	.1	.1
14 months but less than 15.....	613	1	.2	.2
15 months but less than 16.....	517	1	.2	.2
16 months but less than 17.....	436	2	.5	.6
17 months but less than 18.....	355	1	.3	.3
18 months but less than 19.....	278			
19 months but less than 20.....	187			
20 months but less than 21.....	120			
21 months but less than 22.....	58			
Sum of percentages.....			86.8	100.0

In Tables IV and V the basic figures for the duration of unemployment are given for cases of unemployment originating in the first 10 months of work history of children aged 14 but under 15, and for children aged 15 but under 16 years at beginning work, together with figures for the duration of cases of unemployment originating in the thirteenth to the twenty-second months of work history for children aged 14 but under 15 years at beginning work.

In making these comparisons to show the effect of the age at beginning work and experience on the duration of unemployment, the difficulty arises whether the percentage not terminated after 10 months of work history represents cases of pseudo-unemployment merely, or cases of true unemployment lasting for relatively long periods. For purposes of comparative duration, however, it is sufficient to examine the cases which terminated at less than 10 months, since causes tending to lengthen the duration of unemployment would affect these durations, tending to decrease the proportion terminated in less than 1 and 2 months as compared with the proportion terminated in the third, fourth, and later months.

TABLE IV.—Percentage of cases of unemployment terminated with specified duration: Cases originating in first 10 months of work history of children of specified age at commencing work.

Duration of unemployment and termination.	Cases of unemployment originating in first 10 months of work history.					
	Of children aged 14 but under 15 at commencing work.			Of children aged 15 but under 16 at commencing work.		
	Which might have terminated with specified duration.	Terminated.		Which might have terminated with specified duration ¹	Terminated.	
		Number.	Per cent.		Number.	Per cent.
Less than 1 month.....	3,345	1,366	40.8	666	219	32.9
1 month but less than 2.....	3,345	581	17.4	585	101	17.3
2 months but less than 3.....	3,345	268	8.0	509	43	8.5
3 months but less than 4.....	3,345	186	5.6	448	30	6.7
4 months but less than 5.....	3,345	127	3.8	362	19	5.2
5 months but less than 6.....	3,345	108	3.2	267	12	4.2
6 months but less than 7.....	3,345	75	2.2	221	6	2.6
7 months but less than 8.....	3,345	66	2.0	149	4	2.8
8 months but less than 9.....	3,345	36	1.1	88		
9 months but less than 10.....	3,345	39	1.2	32		
Not terminated at 10 months.....	3,345	493	14.7			18.8

¹ Includes for each duration only cases of unemployment commenced early enough so that they might have terminated with that duration before the sixteenth birthday.

² The difference between 100 per cent and the sum of the other per cents given in the column.

TABLE V.—*Percentage of cases of unemployment terminated with specific duration: Cases originating thirteenth to twenty-second months of work history, children aged 14 but less than 15 at beginning work.*

Duration of unemployment.	Cases of unemployment originating in thirteenth to twenty-second months of work history.		
	Which might have terminated with specified duration.	Terminated.	
		Number.	Per cent.
Less than 1 month.....	1,238	421	34.0
1 month but less than 2.....	1,125	163	14.5
2 months but less than 3.....	991	79	8.0
3 months but less than 4.....	818	41	5.0
4 months but less than 5.....	673	17	2.5
5 months but less than 6.....	549	20	3.6
6 months but less than 7.....	416	9	2.2
7 months but less than 8.....	300	1	.3
8 months but less than 9.....	188	5	2.7
9 months but less than 10.....	77		
Not terminated at 10 months.....			1 27.2

¹ The difference between 100 per cent and the sum of the other per cents given in the column.

In Table VI the percentage distributions for cases of unemployment terminated in 10 months are given. Practically no difference appears between the percentages for cases of unemployment commenced in the first 10 months and in the thirteenth to the twenty-second months of work histories of children who were 14 but under 15 years of age at commencing work. For this group, which comprises about three-fourths of the entire number of children, it may be inferred, then, that the duration of unemployment is practically the same in the later as in the earlier parts of work history, but that there is a considerable increase in the number of cases of pseudo-unemployment in the later part of the work history.

In the other comparison a slight difference in the duration of unemployment appears. A somewhat smaller proportion of cases of unemployment end in one month, a larger proportion in subsequent months, among the children who were 15 but under 16 years of age at beginning work, than among children who were 14 but under 15 years of age at beginning work.

TABLE VI.—*Relative duration of unemployment by age at which unemployment commenced and age at beginning work.*

Duration of unemployment.	Per cent distribution of cases of unemployment terminated in 10 months.		
	Children aged 14 but under 15 at beginning work.		Children aged 15 but under 16 at beginning work; unemployment commenced in first 10 months of work history.
	Unemployment commenced in first 10 months of work history.	Unemployment commenced thirteenth to twenty-second month of work history.	
All durations less than 10 months.....	100.0	100.0	100.0
Less than 1 month.....	47.8	46.7	40.5
1 month but less than 2.....	20.4	19.9	21.3
2 months but less than 3.....	9.4	11.0	10.4
3 months but less than 4.....	6.6	6.9	8.3
4 months but less than 5.....	4.5	3.4	6.4
5 months but less than 6.....	3.8	4.9	5.2
6 months but less than 7.....	2.6	3.0	4.4
7 months but less than 8.....	2.3	.4	3.4
8 months but less than 9.....	1.3	3.7	.....
9 months but less than 10.....	1.4	.....	.....

Number of cases of pseudo-unemployment.—The second problem is to determine the number of cases of pseudo-unemployment. This can be found in two ways. The simplest is to consider the total number of cases of unemployment, 5,961, as 114.4 per cent of the true number; this computation gives 750 cases of pseudo-unemployment. Thus of the 1,378 children who appear to have left their positions and not secured others before their sixteenth birthdays, only about half were really unemployed. For the other half, if the records were complete, they would show migration, death, return to school, and other reasons why the employment history terminated.

Another method of approach is to calculate the number of children who would be unemployed on their sixteenth birthdays according to the durations of unemployment actually found in terminated cases, assuming the same monthly rates of unemployment as actually prevailed. This method has an advantage in that it permits of forming an idea as to the probable distribution by month of origin of the cases of pseudo-unemployment.

This method is used in Table VII. Column 2 of that table gives the number of cases of unemployment originating in the different months of work history preceding the sixteenth birthday. By computing the percentage of cases of unemployment which would still be unterminated after the corresponding periods of time—if the same duration of periods prevails as for cases which have terminated within the record period and for which, therefore, the exact duration is known—and by applying these percentages to the number of cases of unemployment originating in each month, the number of

cases of actual unemployment at 16 can be found. The difference between these numbers and the numbers reported "not at work" at 16 are the cases of pseudo-unemployment. In other words, the procedure gives an estimate of the number of cases out of those originating in each month which, if all were cases of true unemployment, would be still unterminated.

The problem of computing the number of cases of true unemployment by this second method offers some difficulty. The percentage of cases not terminated obviously depends directly upon the length of time that the cases of unemployment have to run before the sixteenth birthday. If a given number of cases commenced at exactly one month before the sixteenth birthday, on the average 44.3 per cent would have terminated and 55.7 per cent would be still unterminated at the end of the record. Similarly, if the cases commenced at exactly two months before the sixteenth birthday, 63.4 per cent would have terminated, or 36.6 per cent would be unterminated. The percentages for these durations of complete months can be derived from the adjusted figures of Table I.

TABLE VII.—*Estimated cases of pseudo-unemployment, by month of origin.*

Month of work history before fringe month preceding sixteenth birthday.	Cases of unemployment commencing in specified month.	Percentage not terminated at 16.	Estimated cases of real unemployment unterminated at 16.	Cases not at work at 16.	Estimated cases of pseudo-unemployment.	Factor of correction a.
Fringe month.....	77	82.2	63	72	9	1.13
First month preceding.....	201	57.8	116	163	47	1.31
Second month preceding.....	214	37.8	81	145	64	1.43
Third month preceding.....	242	27.6	67	134	67	1.38
Fourth month preceding.....	282	21.3	60	136	76	1.37
Fifth month preceding.....	283	17.0	48	113	65	1.30
Sixth month preceding.....	275	13.2	36	72	36	1.15
Seventh month preceding.....	290	10.5	29	52	23	1.09
Eighth month preceding.....	290	8.2	23	62	39	1.16
Ninth month preceding.....	303	6.9	21	65	44	1.17
Tenth month preceding.....	329	5.4	18	57	39	1.14
Eleventh month preceding.....	327	3.5	11	45	34	1.12
Twelfth month preceding.....	288	2.7	8	35	27	1.10
Thirteenth month preceding.....	301	1.6	5	33	28	1.10
Fourteenth month preceding.....	289	1.3	4	35	31	1.12
Fifteenth month preceding.....	253	.9	2	28	26	1.12
Sixteenth month preceding.....	270	.8	2	33	31	1.13
Seventeenth month preceding.....	257	.3	1	20	19	1.08
Eighteenth month preceding.....	246	.1	.....	24	24	1.11
Nineteenth month preceding.....	233	.....	.....	17	17	1.08
Twentieth month preceding.....	212	.....	.....	15	15	1.08
Twenty-first month preceding.....	188	.....	.....	12	12	1.07
Twenty-second month preceding.....	189	.....	.....	6	6	1.03
Twenty-third month preceding.....	142	.....	.....	4	4	1.03
Total.....	.....	.....	595	.....	783	.....

But in the groups under consideration, the exact time to the sixteenth birthday is not given for each period of unemployment. Cases of unemployment are classified by the month of work history, measured from the date of (first) employment, in which they began. In stating those months with reference to the time interval before

the sixteenth birthday, there is in each work history group, therefore, a "fringe" or fractional month just prior to the sixteenth birthday, and the other months can be classed only according to the number of months preceding the fringe. For example, cases of unemployment commencing in the first month of work histories of four but less than five months in length are classed as occurring in the fourth month before the fringe month just preceding the end of the record; cases of unemployment that occur in the fifth month (from the beginning) of these work histories are in the fringe month.

Cases of unemployment in a given month of work history may be assumed to occur uniformly throughout the month. The possible duration before the sixteenth birthday of unemployment originating in a given month varies with its position in the month of origin and with its position in relation to the fringe. The possible duration before the sixteenth birthday of cases commencing on the first day of a given month of work history is nearly one month greater than those commencing on the last day. The possible duration before the sixteenth birthday of cases commencing on the last day of a given month of work history is nearly one month greater if there is nearly a full month of fringe than if there is practically no fringe. Cases of unemployment, for example, commencing in the first month of work histories of four but less than five months in length have possible durations before the end of the record at the sixteenth birthday of from three to less than five months—three if the unemployment starts at the end of the month in a work history lasting just four months, and nearly five if the unemployment starts at the beginning of the month in a work history lasting nearly five months. On the average, cases of unemployment commencing in the fourth month before the fringe month, as in the example given, have four months possible duration before the sixteenth birthday.

The percentage of cases of unemployment commencing in a given month of work history which were not terminated at the sixteenth birthday is practically equal to the percentage not terminated after the average number of months' duration, except for the fringe months and those immediately preceding the fringe months. Thus, if 21.3 per cent of cases of unemployment are still unterminated four months after they commenced, approximately the same percentage of cases commencing in the fourth month of work history preceding the fringe month are still unterminated at the sixteenth birthday, since the average possible duration before the sixteenth birthday of those cases is exactly four months.

For the fringe months and the two months preceding the fringe a different procedure has been used. If Y = the percentage terminated after time X , then the values of Y can be calculated from Table I showing the duration of unemployment: for $X=0$, $y=0$;

for $x=1$, $y=44.3$; for $x=2$, $y=(44.3+19.1)=63.4$; for $x=3$, $y=72.4$; for $x=4$, $y=78.7$, etc. Using the first five values, a parabola can be passed through these points as follows: $y=63.86 x-23.68x^2+4.44 x^3-0.32 x^4$.

The percentage terminated for the fringe month is

$$2 \int_0^1 (1-x) y \, dx = 17.8$$

The percentage terminated for cases commencing in the month preceding the fringe month is

$$\int_0^1 xy \, dx + \int_1^2 (2-x) y \, dx = 42.2$$

Similarly for the second month preceding the fringe month

$$\int_1^2 (x-1) y \, dx + \int_2^3 (3-x) y \, dx = 62.2$$

The corresponding percentages for cases not terminated are 82.2, 57.8, and 37.8, respectively.

Applying these percentages to the number of cases of unemployment actually begun in the corresponding months of work history, the figures in the third column are obtained for the cases of real unemployment at 16. Subtracting these from the number recorded as actually unterminated, given in column 4, the figures in the fifth column are secured showing the number and distribution by month of origin of the cases of pseudo-unemployment. The total, 783, is slightly larger than that given by the first method. This figure has been used in preference to the figure secured by the other method, because using it tends to understate the number of cases of true unemployment.

It will be noted that in making the foregoing calculation of cases of pseudo-unemployment the cases of unemployment commencing in each month are treated as if they were all true unemployment. In algebraic symbols, using S to represent the number of cases of pseudo-unemployment, B the number of children not at work at 16 according to record, P the percentage of cases of true unemployment terminated before 16, and $p = \frac{P}{100}$, then $S = B - \frac{V}{a} (1-p)$. In making the estimate, however, the number of cases of pseudo-unemployment is calculated from the formula $S' = B - V (1-p)$. It can easily be shown that $S' = Sp$; for all except the last five or six months there is very little difference between S and S' , since P , or the percentage terminated before 16, rapidly approaches 100 per cent as the number of months increases.

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ent are presented in Table IX. The difference
ries and that already given is inconsiderable. No
erefore been made to correct the durations of unem-
ie error arising from differences in the proportions of
-unemployment in the different parts of work history.
estimated number of cases of true unemployment and factor for correction
for each specified period.

Time.	Cases of unemployment up to specified time.			Factor of correction, c.
	Total.	Pseudo-unemployment.	True unemployment.	
Any month preceding fringe month:	5,961	783	5,178	1.151
1st month.....	5,884	774	5,110	1.151
2nd month.....	5,663	727	4,936	1.147
3rd month.....	5,468	663	4,805	1.138
4th month.....	5,227	596	4,631	1.129
5th month.....	4,945	520	4,425	1.117
6th month.....	4,662	455	4,207	1.108
7th month.....	4,387	419	3,968	1.106
8th month.....	4,107	398	3,711	1.107
9th month.....	3,827	357	3,470	1.108
10th month.....	3,524	313	3,211	1.097
11th month.....	3,195	274	2,921	1.084
12th month.....	2,896	240	2,656	1.091
13th month.....	2,560	213	2,347	1.090
14th month.....	2,279	185	2,094	1.088
15th month.....	1,990	154	1,836	1.084
16th month.....	1,737	128	1,609	1.080
17th month.....	1,467	97	1,370	1.071
18th month.....	1,210	78	1,132	1.069
19th month.....	964	54	910	1.059
20th month.....	731	37	694	1.053
21st month.....	519	22	497	1.044
22nd month.....	331	10	321	1.031
23rd month.....	142	4	138	1.029

IX.—Percentage of cases of unemployment terminated with specified duration, corrected by eliminating cases of pseudo-unemployment.

Duration of unemployment.	True cases of unemployment.		
	That could have terminated with specified duration.	Terminated with specified duration.	
		Number.	Per cent.
Under 1 month.....	4,956	2,197	44.3
1 month but under 2.....	4,809	913	19.0
2 months but under 3.....	4,653	414	8.9
3 months but under 4.....	4,427	272	6.1
4 months but under 5.....	4,207	174	4.1
5 months but under 6.....	3,968	147	3.7
6 months but under 7.....	3,711	95	2.6
7 months but under 8.....	3,470	75	2.2
8 months but under 9.....	3,211	48	1.5
9 months but under 10.....	2,921	40	1.4
10 months but under 11.....	2,656	45	1.7
11 months but under 12.....	2,347	19	0.8
12 months but under 13.....	2,094	22	1.1
13 months but under 14.....	1,836	5	0.3
14 months but under 15.....	1,609	6	0.4
15 months but under 16.....	1,370	2	0.1
16 months but under 17.....	1,132	5	0.4
17 months but under 18.....	910	2	0.2
18 months but under 19.....	694	1	0.1
Sum of per cents.....			87.7

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The monthly incidence of cases of pseudo-unemployment, by sex.

Age.	Boys at risk.	New cases of pseudo-unemployment.		Girls at risk.	New cases of pseudo-unemployment.	
		Num- ber.	Per cent.		Num- ber.	Per cent.
Under 14 years 1 month.....	817	4	0.5	653	—	—
but under 14 years 2 months.....	1,136	3	.3	901	3	0.3
but under 14 years 3 months.....	1,378	7	.5	1,088	5	.5
but under 14 years 4 months.....	1,599	11	.7	1,226	4	.3
but under 14 years 5 months.....	1,795	11	.6	1,355	6	.4
but under 14 years 6 months.....	1,983	16	.8	1,485	8	.5
but under 14 years 7 months.....	2,131	11	.5	1,625	8	.5
but under 14 years 8 months.....	2,294	17	.7	1,753	14	.8
but under 14 years 9 months.....	2,441	16	.7	1,877	10	.5
but under 14 years 10 months.....	2,580	21	.8	1,999	10	.5
but under 14 years 11 months.....	2,692	18	.7	2,101	10	.5
but under 14 years 12 months.....	2,819	15	.5	2,211	12	.5
but under 14 years 13 months.....	2,955	20	.7	2,354	14	.6
but under 14 years 14 months.....	3,096	19	.6	2,443	20	.8
but under 14 years 15 months.....	3,189	26	.8	2,521	18	.7
but under 14 years 16 months.....	3,275	19	.6	2,598	20	.8
but under 14 years 17 months.....	3,354	12	.4	2,663	11	.4
but under 14 years 18 months.....	3,440	16	.5	2,725	19	.7
but under 14 years 19 months.....	3,497	48	1.4	2,774	17	.6
but under 14 years 20 months.....	3,526	47	1.3	2,804	29	1.0
but under 14 years 21 months.....	3,546	44	1.2	2,822	24	.9
but under 14 years 22 months.....	3,546	39	1.1	2,835	25	.9
but under 14 years 23 months.....	3,545	33	()	2,845	14	()
but under 14 years 24 months.....	3,527	6	()	2,846	3	()

* Not a complete month.

impossible to estimate the number of cases of pseudo-unemployment due to each possible cause. At an average mortality rate of 1,000 per year there would have been about 29 deaths among the children at work. But no other cause can be so accurately measured. There were, however, 54 cases of unemployment terminated at 16 which had lasted more than 19 months—all manifestly pseudo-unemployment. The corresponding schedules were examined; no reason was given in 45 instances; in 5 instances the child had returned to school, including one to a trade school, and in 1 to the State school; in 2 instances the child worked at home; in 1 he went to work on a farm; and in 1 he was ill. These cases illustrate the types of reasons but do not furnish any basis for estimates as to the relative frequency of each type.

Estimates of children occupied at each age.—Using the estimates of the number of cases of pseudo-unemployment, the number and the proportions of children occupied at each age, including those temporarily out of work, can be estimated. For each age the number of cases of pseudo-unemployment which occurred before that age is deducted from the number of children granted certificates before the given age. The results are shown in Table XII, the percentages of which are given in Table II of the text.

CHILD WORKING

measured at each up to 10

Days occupied.		Days unemployed.	
Per cent of estimated number of boys.		Per cent of estimated number of boys.	
1	1	1	1
11	11	11	11
13	13	13	13
15	15	15	15
17	17	17	17
19	19	19	19
21	21	21	21
23	23	23	23
25	25	25	25
27	27	27	27
29	29	29	29
31	31	31	31
33	33	33	33
35	35	35	35
37	37	37	37
39	39	39	39
41	41	41	41
43	43	43	43
45	45	45	45
47	47	47	47
49	49	49	49
51	51	51	51
53	53	53	53
55	55	55	55
57	57	57	57
59	59	59	59
61	61	61	61
63	63	63	63
65	65	65	65
67	67	67	67
69	69	69	69
71	71	71	71
73	73	73	73
75	75	75	75
77	77	77	77
79	79	79	79
81	81	81	81
83	83	83	83
85	85	85	85
87	87	87	87
89	89	89	89
91	91	91	91
93	93	93	93
95	95	95	95
97	97	97	97
99	99	99	99

Based on... and 9.8% per... to 1910, the... of 1910, and the...

Percentage... maintaining a constant rate of... from the table giving the... children who will be constant... of unemployment... work history, by the end of the month... or 55.7 per cent will still be... unemployment... the month, the percentage... to the...

$$\int y dx, \text{ where } y \text{ is the...}$$

LE XIII.—*Estimated number of children constantly unemployed among a group of children of whom 100 became unemployed each month.*

Mouth of work history.	Estimated percentage of cases of unemployment not terminated at end of specified month of work history.	Estimated number unemployed at end of specified period among group of children of whom 100 became unemployed in each month of work history.
1st.....	74.9	74.9
2nd.....	44.8	119.7
3rd.....	31.6	151.3
4th.....	24.5	175.8
5th.....	19.2	195.0
6th.....	15.1	210.1
7th.....	11.9	222.0
8th.....	9.4	231.4
9th.....	7.6	239.0
10th.....	6.2	245.2
11th.....	4.5	249.7
12th.....	3.1	252.8
13th.....	2.2	255.0
14th.....	1.5	256.5
15th.....	1.1	257.6
16th.....	.9	258.5
17th.....	.6	259.1
18th.....	.2	259.3
19th.....	.1	259.4

In Table XIII are given the percentages of cases still un-terminated at the end of specified months of work history, the first three months being derived from the formula; for the remaining months the figures give the average of the percentages of cases which would be un-terminated if all cases commenced on the first day and if they all commenced on the last day of the month of work history in question.

The next column in the table represents the number of cases still unemployed at the end of the specified month of work history among a group of children of whom 100 became unemployed each month. After 19 months 259 children are constantly unemployed, for 100 new cases of unemployment commence and 100 cases terminate each month. If the number of children actually employed is then after 19 months assumed to be 1,000—which would give a rate of 10 new cases of unemployment per 100 children *at work* at the beginning of the month—there would be, including the 259 constantly out of work, 1,259 children in the group, and the percentage of the entire group constantly unemployed would be 20.6. A rate of 10 per cent becoming unemployed each month would result, if continued, in one-fifth of the children being constantly unemployed. If the rate were 2, assuming 100 new cases of unemployment each month, the number of children employed in the group would be 5,000, the entire group would be 5,259, and the percentage constantly unemployed would be 4.9. The percentages given in the text have been computed in a similar manner.

TABLE XIV.—*Monthly rate of unemployment: Number of new cases of unemployment per 100 children employed at beginning of each month of work history. Actual and adjusted rates.*

Month of work history.	Children employed at beginning of month. ¹	Cases of unemployment.		
		Number.	Per 100 children employed.	Adjusted rates. ²
First.....	7,117	740	10.4	9.1
Second.....	6,351	556	8.8	7.7
Third.....	6,052	522	8.6	7.5
Fourth.....	5,770	387	6.7	5.9
Fifth.....	5,641	337	6.0	5.2
Sixth.....	5,497	316	5.7	5.0
Seventh.....	5,332	330	6.2	5.4
Eighth.....	5,176	317	6.1	5.3
Ninth.....	4,991	306	6.1	5.3
Tenth.....	4,811	265	5.5	4.8
Eleventh.....	4,592	242	5.3	4.6
Twelfth.....	4,329	208	4.8	4.2
Thirteenth.....	4,098	221	5.4	4.7
Fourteenth.....	3,905	211	5.4	4.7
Fifteenth.....	3,648	175	4.8	4.2
Sixteenth.....	3,398	163	4.8	4.2
Seventeenth.....	3,134	130	4.1	3.6
Eighteenth.....	2,867	110	3.8	3.3
Nineteenth.....	2,577	112	4.3	3.8
Twentieth.....	2,314	91	3.9	3.4
Twenty-first.....	2,004	67	3.3	2.9
Twenty-second.....	1,672	47	2.8	2.4
Twenty-third.....	1,204	31	2.6	2.3

¹ Figures for first, second, third, fourth, seventh, thirteenth, and nineteenth found by direct tabulation. Figures for intermediate months are derived from those employed at the beginning of the last month shown, with a correction, except after the nineteenth month, for the reduction in number employed due to the slight excess of new cases of unemployment commenced over old cases terminated, as indicated by the figures for the next month that is tabulated.

² Figures found by dividing rates in preceding column by 1.144, to correct for cases of pseudo-unemployment.

TABLE XV.—*Monthly rate of unemployment by sex: Number of new cases of unemployment per 100 children employed at beginning of each month of work history. Actual and adjusted rates.*

Month of work history.	Boys employed at beginning of month.	Cases of unemployment of boys.			Girls employed at beginning of month.	Cases of unemployment of girls.		
		Number.	Per 100 boys employed.	Adjusted rates.		Number.	Per 100 girls employed.	Adjusted rates.
First.....	3,985	457	11.5	10.1	3,132	283	9.0	7.9
Second.....	3,519	354	10.1	8.8	2,832	202	7.1	6.2
Third.....	3,335	313	9.4	8.2	2,717	209	7.7	6.7
Fourth.....	3,170	232	7.3	6.4	2,600	155	6.0	5.2
Fifth.....	3,095	223	7.2	6.3	2,546	114	4.5	3.9
Sixth.....	3,025	202	6.7	5.9	2,472	114	4.6	4.0
Seventh.....	2,933	210	7.2	6.3	2,399	120	5.0	4.4
Eighth.....	2,847	206	7.2	6.3	2,329	111	4.8	4.2
Ninth.....	2,750	191	6.9	6.0	2,241	115	5.1	4.5
Tenth.....	2,649	176	6.6	5.8	2,162	89	4.1	3.6
Eleventh.....	2,518	156	6.2	5.4	2,074	86	4.1	3.6
Twelfth.....	2,394	130	5.4	4.7	1,935	78	4.0	3.5
Thirteenth.....	2,269	142	6.3	5.5	1,829	79	4.3	3.8
Fourteenth.....	2,163	133	6.1	5.3	1,742	78	4.5	3.9
Fifteenth.....	2,022	117	5.8	5.1	1,626	58	3.6	3.1
Sixteenth.....	1,889	103	5.5	4.8	1,509	60	4.0	3.5
Seventeenth.....	1,738	84	4.8	4.2	1,396	46	3.3	2.9
Eighteenth.....	1,601	70	4.4	3.8	1,266	40	3.2	2.8
Nineteenth.....	1,433	63	4.4	3.8	1,144	49	4.3	3.8
Twentieth.....	1,277	57	4.5	3.9	1,037	34	3.3	2.9
Twenty-first.....	1,066	46	4.2	3.7	918	21	2.3	2.0
Twenty-second.....	907	33	3.6	3.1	765	14	1.8	1.6
Twenty-third.....	647	18	2.8	2.4	557	13	2.3	2.0

TABLE XVI.—*Monthly rate of unemployment by age at commencing work: Number of new cases of unemployment per 100 children at work at the beginning of each of the first 10 months of work history for children aged 14 but under 15 and for children aged 15 but under 16 at first employment.*

Month of work history.	Children aged 14 but under 15 at first employment.				Children aged 15 but under 16 at first employment.			
	Em- ployed at begin- ning of month.	Cases of unemployment.			Em- ployed at begin- ning of month.	Cases of unemployment.		
		Number.	Per 100 children em- ployed.	Adjusted rates.		Number.	Per 100 children em- ployed.	Adjusted. rates.
First.....	5,243	562	10.7	9.4	1,874	178	9.5	8.3
Second.....	4,711	436	9.3	8.1	1,640	120	7.3	6.4
Third.....	4,527	410	9.1	8.0	1,525	112	7.3	6.4
Fourth.....	4,387	298	6.8	5.9	1,383	89	6.4	5.6
Fifth.....	4,372	276	6.3	5.5	1,299	61	4.8	4.2
Sixth.....	4,356	274	6.3	5.5	1,141	42	3.7	3.2
Seventh.....	4,340	284	6.5	5.7	992	46	4.6	4.0
Eighth.....	4,336	282	6.5	5.7	839	35	4.2	3.7
Ninth.....	4,332	275	6.3	5.5	655	31	4.7	4.1
Tenth.....	4,328	248	5.7	5.0	478	17	3.6	3.1

Margin of error.—With material of this character it is desirable to discuss in detail the sources of error and the validity of the conclusions.

The primary sources of error, as in other statistics based upon administrative records, lie in the enforcement of the law and the administrative procedure adopted to carry the law into effect. The enforcement of the law is in the hands of the State board of education. The administration of the child-labor law is carried on in close connection with the enforcement of the compulsory school law. Children under 16 are required to be in school, unless they are at work. Children in the public schools are known to the educational authorities, and it is comparatively easy to check up absences of children and to determine whether they are illegally at work.

The enforcement of the employment-certificate requirement is relatively difficult, however, with children who have never been in the public schools of Connecticut, namely, those children who are in the parochial schools and those who move into the State of Connecticut from other States. The parochial schools can not be required, under present laws, to report to the State board of education when children subject to the compulsory-education law leave school to go to work or fail to report. The school census which is taken every year affords the school authorities almost the only opportunity to find children from parochial schools or from outside the State who are not in school but illegally at work or neither in school nor at work.

Besides this school census reliance is had upon an inspection service. Industrial establishments are inspected at irregular intervals and children at work without certificates are sent to the certificate office or are sent back to school. The inspection is more frequent

and thorough in the larger cities and in the larger establishments. As explained in the text, employers are prosecuted for illegal employment of children.

The requirement that unemployed children be returned to school is not very satisfactorily enforced. The schools have no suitable provision for such children nor is the administrative machinery adapted to enforce this requirement. Not only are there delays in notifying the agents of the board when a child has left a position without having secured a new one but the local agents have not been required to make definite reports to show the reasons why the children are not at work and not in school. If children between 14 and 16 years of age, both employed and unemployed, were required to attend continuation schools this difficulty would be removed.

1. Number of children employed: The accuracy of the figures relating to the number of children employed depends upon the enforcement and observation of the law. The true number of children employed in occupations covered by the law is probably understated. The understatement is probably proportionately largest of children who moved into the State or who had left the parochial schools to enter employment, but since the enforcement by means of public-school records, school censuses, and inspection of industrial establishments is fairly good, it is doubtful whether many children worked without having at least one certificated position. Duplication of records for the same children is avoided by having a certificate-filing system for the State, and by filing alphabetically.

2. Sex: There is no evidence that failure to secure certificates would occur more frequently among boys than among girls.

3. Age: The distribution by age is probably substantially accurate. Errors arising from failure to take out any certificate, and errors from failure to certify the first one or two positions obtained, would probably affect the different ages equally and hence not bias the age distribution of children employed. A possible exception is in the cases of children who move into the State after they have become 14; they form a relatively older group, may have had certificates in other States, or they may fail to get certificates at all, since in other cases the enforcement authorities must rely upon an annual school census or upon the inspection system, unless the employers insist upon the children being provided with employment certificates.

4. Proportion of children employed at each age: One source of error is in the estimate of children of a corresponding age in the State. The age statistics of the censuses of 1900 and 1910, which are used as a basis of the estimate, show fluctuations due to errors of reporting. The estimate was made on the assumption that the same proportion of the estimated population in Connecticut aged 10 to 14 years, inclusive, was aged 14, but under 15, on September 1, 1912,

as at the date of the census of 1910, and the population 10 to 14 years was estimated on the assumption that the annual increase after 1910 was equal to the average annual increase of the same age group between the censuses of 1900 and 1910. The proportions of children employed at each age are found by dividing the number of children who secured employment certificates previously to the given age by the number of children born during the same year, the estimate for which has just been explained. The numbers of children at work have been corrected for cases of pseudo-unemployment occurring previously.

The estimates are conservative, since an understatement of the number of children employed and the failure of children to certify their first positions would tend to decrease the proportion occupied at the different ages. Another source of error is the probable tendency among children nearing the age of 16, taking new positions, to fail to take out certificates as required. In such cases the children can more easily persuade employers that they are already 16 and do not, therefore, require certificates.

5. Industry of first employment: A failure of children to take out certificates, due to uneven enforcement of the law, might affect the distribution by industries if particular industries or particular localities with particular industries in them were especially affected by the omission of certificates. But as the law is enforced uniformly throughout the State by agents of the State board of education, who use the same methods and follow the same instructions, even though the enforcement may not be so thorough in agricultural districts and the smaller towns as in the cities where the agents have their headquarters, this source of error is reduced to a minimum.

6. Duration of first employment: This duration is measured from the date of the beginning notice to the date of the termination notice, or to the sixteenth birthday. Errors in dating, such as occur when an employer delays in sending in a commencement notice and then gives the date of filling out the notice instead of the date when the child actually began work, would affect the first date. The second date is subject to the same kind of error; delays in sending in termination notices accompanied by the use of the date of filling out the notice instead of the date when the child actually terminated the employment would tend to offset similar delays in beginning notices, and, indeed, would probably more than offset them; for beginning notices can be checked with the child's application for a certificate, while if a termination notice is delayed or entirely omitted, there is no immediate way of checking it up unless the child takes another position. Among the 7,679 changes to new positions there were 148 in each of which a termination notice between two beginning notices was omitted. If no new position had been found before the sixteenth

birthday, such a case of omission of a termination notice would have been counted as one of employment until the sixteenth birthday in the position for which the termination notice had not been received. Such omissions of termination notice occurring some time before the child becomes 16 would be likely to be checked up by his applying for another certificate. Relatively few cases, therefore, would be found among those still employed after 21 months of work. The relative position of the industries in duration of first employment would not be affected by such omissions; indeed, it should be noted that the industry in which the largest proportion of children remained longer than 21 months is also the one in which the smallest proportion left their first positions in the first 2 or 3 months of work. All cases of omission of a termination notice, however, would tend to lengthen somewhat the average duration of employment.

In case of death, removal from the State, or return to school, the employment would usually be terminated earlier than it would normally have been. These cases would have an effect opposite to that of the omissions of termination notices.

7. Number of positions: The total number of positions held by all children at work in Connecticut is understated to an extent determined by the number of children who failed to secure any certificate and the number of positions for which children who had at least one employment certificate failed to secure certificates.

The distribution of children with work histories of 21 to 24 months by number of positions is affected by failure to certify positions in the direction of classifying children as having fewer positions than they actually had.

8. Shifting: The classification of children with work histories of 21 to 24 months by type of worker is somewhat rough, since no account is taken of the amount of employment; the children are classified merely by the number of positions in relation to the length of the work history. This procedure classified in the more steadily working groups a few children who belong in the classes of the less steady workers, either because of their long periods of unemployment, or because they had more positions than they secured certificates for; the result gives a conservative figure for the number of shifting children.

9. Changes of position without intervening unemployment: The procedure of classifying a case where a termination notice was omitted between beginning notices as a change of position without intervening unemployment results in a slight overstatement of the number of changes of positions without unemployment intervening. This classification was adopted in order to understate rather than to overstate the number of cases of unemployment.

1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes the need for transparency and accountability in all financial dealings.

2. The second part of the document outlines the various methods and techniques used to collect and analyze data. It includes a detailed description of the experimental procedures and the statistical analysis performed.

3. The third part of the document presents the results of the study. It includes a series of tables and graphs that illustrate the findings of the research. The data shows a clear trend of increasing activity over time.

4. The fourth part of the document discusses the implications of the findings. It suggests that the results have significant implications for the field of study and may lead to further research in this area.

5. The fifth part of the document concludes the study. It summarizes the main findings and provides a final statement on the importance of the research.

6. The sixth part of the document includes a list of references to the literature cited in the study. It provides a comprehensive overview of the current state of the field and identifies areas for future research.

7. The seventh part of the document includes a list of appendices. These appendices provide additional information and data that support the findings of the study. They include raw data, detailed calculations, and additional graphs.

8. The eighth part of the document includes a list of figures. These figures are used to illustrate the results of the study and provide a visual representation of the data. They include line graphs, bar charts, and pie charts.

9. The ninth part of the document includes a list of tables. These tables provide a detailed summary of the data and are used to support the findings of the study. They include data on the number of transactions, the amount of money involved, and the frequency of activity.

10. The tenth part of the document includes a list of footnotes. These footnotes provide additional information and references that are not included in the main text. They are used to provide a more complete picture of the study and its findings.

11. The eleventh part of the document includes a list of acknowledgments. These acknowledgments recognize the contributions of the individuals and organizations that have supported the study. They include a list of names and a brief description of their contributions.

12. The twelfth part of the document includes a list of contact information. This information is used to provide a way for others to contact the author or the organization responsible for the study. It includes a list of names, addresses, and phone numbers.

13. The thirteenth part of the document includes a list of other relevant information. This information is used to provide a more complete picture of the study and its findings. It includes a list of names, addresses, and phone numbers.

14. The fourteenth part of the document includes a list of other relevant information. This information is used to provide a more complete picture of the study and its findings. It includes a list of names, addresses, and phone numbers.

15. The fifteenth part of the document includes a list of other relevant information. This information is used to provide a more complete picture of the study and its findings. It includes a list of names, addresses, and phone numbers.

13. Duration of unemployment: Most of the sources of error in the duration of unemployment have already been discussed. Delays in sending in termination notices with substitution of date of filling out for date of actual termination of work would tend to shorten, and similar errors in dates of beginning notices tend to lengthen, the duration of periods of unemployment; but, as has been stated, the total result of all such delays would probably be to shorten the periods. On the other hand, the provisional period of work on the parent's copy of the first certificate may work the other way for beginning notices. The duration of a period of unemployment lasting over one week is counted as the full time between the date of the termination and of the beginning notice, and therefore, if the beginning notice is not dated back to the day on which the child went to work on his parent's copy, there may be an error up to one week in the actual and average duration of the period of unemployment.

In this connection it should be remembered that it can not always be inferred that an interval between positions is unemployment in the ordinary sense. There is, however, no method for estimating the error from this source; it would probably affect the longer periods more than the shorter ones.

The difference in average duration of periods of unemployment of boys and girls is not large, and probably not of very great significance, similarly in regard to the difference shown for the earlier and later parts of the work histories.

GENERAL TABLES.



TABLE 1.—*Industry of first employment by age at first employment: Number and per cent distribution of boys and girls of specified age at first employment, by industry of first employment.*

Industry of first employment.	BOYS.											
	Total.		14-14½		14½-15		15-15½		15½-16			
	Num-ber.	Per-cent dis-tribu-tion.	Num-ber.	Per-cent dis-tribu-tion.	Num-ber.	Per-cent dis-tribu-tion.	Num-ber.	Per-cent dis-tribu-tion.	Num-ber.	Per-cent dis-tribu-tion.	Num-ber.	Per-cent dis-tribu-tion.
All industries.....	4,000	100.0	1,385	100.0	634	100.0	935	100.0	732	100.0	314	100.0
Manufacturing and me- chanical industries.....	2,838	71.0	997	72.0	444	70.0	672	71.9	502	68.6	223	71.0
Metal.....	1,404	35.1	497	35.9	229	36.1	327	35.0	231	31.6	120	38.2
Textiles.....	663	16.6	230	16.6	93	14.7	162	17.3	124	16.9	54	17.2
Clothing.....	185	4.6	59	4.3	27	4.3	48	5.1	40	5.5	11	3.5
Food products.....	46	1.2	15	1.1	10	1.6	12	1.3	7	1.0	2	0.6
Wood products.....	45	1.1	17	1.2	6	0.9	7	0.7	13	1.8	2	0.6
Leather goods.....	48	1.2	22	1.6	9	1.4	12	1.3	3	0.4	2	0.6
Chemical products.....	24	0.6	7	0.5	2	0.3	6	0.6	7	1.0	2	0.6
Bone products.....	85	2.1	48	3.5	7	1.1	15	1.6	13	1.8	2	0.6
Clay products.....	29	0.7	10	0.7	5	0.8	5	0.5	6	0.8	3	1.0
Rubber goods.....	48	1.2	13	0.9	7	1.1	13	1.4	9	1.2	6	1.9
Electrical goods.....	117	2.9	46	3.3	19	3.0	25	2.7	21	2.9	6	1.9
Printing.....	72	1.8	20	1.4	16	2.5	18	1.9	14	1.9	4	1.3
Other.....	72	1.8	13	0.9	14	2.2	22	2.4	14	1.9	9	2.9
Trade.....	711	17.8	275	19.9	114	18.0	157	16.8	121	16.5	44	14.0
Transportation.....	143	3.6	55	4.0	21	3.3	29	3.1	26	3.6	12	3.8
Personal and domestic service.....	39	1.0	17	1.2	5	0.8	9	1.0	6	0.8	2	0.6
Other.....	66	1.7	8	0.6	16	2.5	19	2.0	16	2.2	7	2.2
Not reported.....	203	5.1	33	2.4	34	5.4	49	5.2	61	8.3	26	8.3
GIRLS.												
All industries.....	3,147	100.0	1,091	100.0	412	100.0	786	100.0	609	100.0	249	100.0
Manufacturing and me- chanical industries.....	2,504	79.6	907	83.1	323	78.4	610	77.6	476	78.2	188	75.5
Metal.....	664	21.1	212	19.4	91	22.1	182	23.2	125	20.5	54	21.7
Textiles.....	835	26.5	317	29.1	104	25.2	199	25.3	158	25.9	57	22.9
Clothing.....	431	13.7	184	16.9	51	12.4	91	11.6	74	12.2	31	12.4
Food products.....	61	1.9	20	1.8	8	1.9	15	1.9	16	2.6	2	0.8
Wood products.....	132	4.2	55	5.0	16	3.9	24	3.1	25	4.1	12	4.8
Leather goods.....	22	0.7	13	1.2	2	0.5	5	0.6	2	0.3	.....	.....
Chemical products.....	38	1.2	6	0.5	5	1.2	8	1.0	14	2.3	5	2.0
Bone products.....	79	2.5	28	2.6	7	1.7	21	2.7	20	3.3	3	1.2
Clay products.....	13	0.4	4	0.4	3	0.7	2	0.3	2	0.3	2	0.8
Rubber goods.....	60	1.9	14	1.3	11	2.7	19	2.4	10	1.6	6	2.4
Electrical goods.....	120	3.8	48	4.4	15	3.6	25	3.2	21	3.4	11	4.4
Printing.....	20	0.6	4	0.4	3	0.7	6	0.8	3	0.5	4	1.6
Other.....	29	0.9	2	0.2	7	1.7	13	1.7	6	1.0	1	0.4
Trade.....	522	16.6	150	13.7	72	17.5	144	18.3	106	17.4	50	20.1
Transportation.....	4	0.1	.....	.....	.....	.....	3	0.4	1	0.2	.....	.....
Personal and domestic service.....	28	0.9	14	1.3	4	1.0	3	0.4	5	0.8	2	0.8
Other.....	12	0.4	5	0.5	.....	.....	5	0.6	2	0.3	.....	.....
Not reported.....	77	2.4	15	1.4	13	3.2	21	2.7	19	3.1	9	3.6

FILE WORKERS.

	1,000	1,100	1,200	1,300	1,400	1,500	1,600	1,700	1,800	1,900	2,000	2,100	2,200	2,300	2,400	2,500	2,600	2,700	2,800	2,900	3,000
4,000	174	201	102	80	102	102	102	102	102	102	102	102	102	102	102	102	102	102	102	102	102
4,100	175	202	103	81	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103
4,200	176	203	104	82	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104
4,300	177	204	105	83	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105
4,400	178	205	106	84	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106
4,500	179	206	107	85	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107	107
4,600	180	207	108	86	108	108	108	108	108	108	108	108	108	108	108	108	108	108	108	108	108
4,700	181	208	109	87	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109
4,800	182	209	110	88	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110
4,900	183	210	111	89	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111
5,000	184	211	112	90	112	112	112	112	112	112	112	112	112	112	112	112	112	112	112	112	112
5,100	185	212	113	91	113	113	113	113	113	113	113	113	113	113	113	113	113	113	113	113	113
5,200	186	213	114	92	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114
5,300	187	214	115	93	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
5,400	188	215	116	94	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116
5,500	189	216	117	95	117	117	117	117	117	117	117	117	117	117	117	117	117	117	117	117	117
5,600	190	217	118	96	118	118	118	118	118	118	118	118	118	118	118	118	118	118	118	118	118
5,700	191	218	119	97	119	119	119	119	119	119	119	119	119	119	119	119	119	119	119	119	119
5,800	192	219	120	98	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120
5,900	193	220	121	99	121	121	121	121	121	121	121	121	121	121	121	121	121	121	121	121	121
6,000	194	221	122	100	122	122	122	122	122	122	122	122	122	122	122	122	122	122	122	122	122

All directions:

22 to 24 months
22 months but
21 months but
20 months but
19 months but
18 months but
17 months but
16 months but

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[illegible]

GIRLS.

[illegible]

TABLE 2.—*Children having specified number of positions, by length of work history, and sex.*

Length of work history.

Total.	Children having specified number of positions.														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
7,117	2,577	1,843	952	171	247	111	54	31	17	12	3	1	1	1	1

Period of Work history and sex.

	Total.	First.	Second.	Third.	Fourth.	Fifth.	Sixth.	Seventh.	Eighth.	Ninth.	Tenth.	Eleventh.	Twelfth.	Thirteenth.	Fourteenth.	Fifteenth.	Sixteenth.	Seventeenth.	Eighteenth.	Nineteenth.	Twentieth.	Twenty-first.	Twenty-second.	Twenty-third.	Twenty-fourth.
19	5,961	741	555	524	389	339	319	333	319	310	267	246	214	226	212	178	166	133	110	114	94	72	50	33	16
23	1,079	142	117	106	93	84	89	80	82	69	62	80	59	77	76	60	59	60	44	53	59	45	36	31	(16)
22	675	72	43	45	33	33	39	35	36	37	35	20	27	35	31	21	25	14	18	32	32	16	15	11	(2)
21	492	39	38	42	25	21	23	28	25	31	21	19	19	21	28	18	24	18	24	11	7	7	7	(3)	
20	361	36	32	24	21	17	19	21	22	27	26	18	18	8	14	16	8	9	9	7	9	(5)			
19	340	42	32	28	26	17	18	17	23	21	14	15	16	13	14	14	18	12	6	9	(3)				
18	305	43	32	32	10	19	16	19	12	16	10	15	10	16	13	13	9	5	9	(2)					
17	283	36	29	16	19	17	14	11	11	10	10	15	10	10	8	14	9	12	(...)						
16	260	31	30	26	19	15	15	15	15	13	13	13	8	10	7	9	11	(3)							
15	267	28	29	23	13	24	18	19	20	16	15	11	17	11	10	10	(3)								
14	177	33	16	23	9	9	8	7	10	12	9	11	12	9	6	(3)									
13	188	25	15	25	19	15	17	14	15	12	8	9	9	5	(1)										
12	163	35	23	20	11	6	4	12	9	8	12	11	7	(5)											
11	166	32	25	19	15	10	8	13	8	13	8	9	(6)												
10	140	31	17	16	13	10	12	10	7	11	9	(4)													
9	117	25	16	16	13	13	6	10	7	7	(2)														
8	95	23	12	17	8	2	6	10	13	(4)															
7	70	15	12	15	10	8	5	3	(2)																
6	78	15	12	12	14	12	5	(3)																	
5	44	13	7	6	9	6	(3)																		
4	28	6	7	6	7	(2)																			
3	16	5	4	5																					
2	17	9	6	(2)																					
1	4	4	(...)																						
Less than 1 month.	1	(1)																							

Period of Work history and sex.

Case of unemployment corresponding to specified amount of work history, by length of work history and sex of child. Continued.

Concepts of water history and use

Remains of water battery and was

[illegible]

INDUSTRIAL INSTABILITY OF CHILD WORKERS.

HOYS.

	4,000	1,500	500	200	100	50	25	11	1	2	1
All duration	417	232	135	68	37	17	8	4	1	1	1
24 months but less than 25	323	115	86	24	23	6	3	5	1	1	1
21 months but less than 22	245	91	63	14	4	4	6	2	1	2	1
20 months but less than 21	228	95	75	16	9	2	1	1	1	1	1
18 months but less than 20	207	81	61	21	10	3	1	1	1	1	1
17 months but less than 18	199	80	58	22	8	2	2	1	1	1	1
16 months but less than 17	164	65	56	6	2	2	2	1	1	1	1
15 months but less than 16	174	85	50	9	3	2	2	1	1	1	1

TABLE 6.—*Children employed at beginning of specified month of work history, according to length of work history, and sex—Continued.*

GIRLS—Continued.

Length of work history.	Children employed at beginning of specified month of work history.						
	First.	Second.	Thir.	Fourth.	Seventh.	Thirteenth.	Nineteenth.
4 months but less than 5.....	47	46	46	43	.....	.....	.....
3 months but less than 4.....	47	44	44	(45)	.....	.....	.....
2 months but less than 3.....	37	32	(31)	.....	.....	.....	.....
1 month but less than 2.....	35	(31)	.....	.....	.....	.....	.....
Less than 1 month.....	(15)	.....	.....	.....	.....	.....	.....

TABLE 7.—*Number of cases of unemployment in specified month of work history per 100 children employed at beginning of the month, by length of work history, and sex.*

Length of work history.	Number of cases of unemployment in specified month of work history per 100 children employed at beginning of the month. ¹						
	First.	Second.	Thir.	Fourth.	Seventh.	Thirteenth.	Nineteenth.
All children: Average.....	10.4	8.9	8.6	6.7	6.2	5.4	4.3
23 to 24 months.....	9.7	8.8	8.2	7.4	6.5	6.2	4.4
22 months but less than 23.....	12.6	8.6	9.3	7.1	7.6	7.5	6.8
21 months but less than 22.....	9.0	9.5	10.9	6.9	7.8	5.9	3.3
20 months but less than 21.....	9.7	9.6	7.3	6.6	6.7	2.7	2.3
19 months but less than 20.....	12.4	10.6	9.7	9.3	6.2	5.8	3.4
18 months but less than 19.....	12.8	10.8	11.4	3.7	7.0	4.6	.....
17 months but less than 18.....	11.5	10.2	6.1	7.3	5.5	6.2	.....
16 months but less than 17.....	10.0	10.8	9.9	7.3	5.8	3.9	.....
15 months but less than 16.....	9.3	10.8	8.9	6.2	7.5	4.6	.....
14 months but less than 15.....	11.5	6.2	9.1	3.7	2.9	3.6	.....
13 months but less than 14.....	10.2	6.8	11.5	9.3	8.6	2.7	.....
12 months but less than 13.....	13.2	9.8	8.9	5.0	5.3	.....	.....
11 months but less than 12.....	10.5	9.2	7.1	5.7	5.0	.....	.....
10 months but less than 11.....	11.7	7.3	7.0	5.9	4.6	.....	.....
9 months but less than 10.....	11.9	9.5	8.8	7.3	5.6	.....	.....
8 months but less than 9.....	11.1	6.4	9.4	4.6	5.4	.....	.....
7 months but less than 8.....	8.2	7.0	9.1	6.3	2.0	.....	.....
6 months but less than 7.....	8.8	7.6	7.8	9.3	.....	.....	.....
5 months but less than 6.....	9.2	5.3	4.6	7.0	.....	.....	.....
4 months but less than 5.....	4.8	5.9	5.4	6.1	.....	.....	.....
3 months but less than 4.....	4.4	3.7	4.7	.....	.....	.....	.....
Boys: Average.....	11.5	10.1	9.4	7.3	7.2	6.3	4.4
23 to 24 months.....	10.3	10.0	10.2	8.6	8.2	8.0	4.0
22 months but less than 23.....	16.7	9.8	8.2	9.3	8.7	10.0	6.9
21 months but less than 22.....	9.0	9.4	13.4	7.7	8.3	6.2	4.5
20 months but less than 21.....	8.3	11.8	9.0	7.3	8.0	2.2	2.6
19 months but less than 20.....	11.6	13.1	11.0	11.4	5.5	6.7	3.8
18 months but less than 19.....	15.1	14.5	12.6	3.9	9.4	4.9	.....
17 months but less than 18.....	12.2	11.5	5.9	7.5	8.4	7.7	.....
16 months but less than 17.....	9.8	10.3	8.6	7.2	4.8	2.8	.....
15 months but less than 16.....	11.0	14.1	8.2	4.6	8.9	4.8	.....
14 months but less than 15.....	14.8	7.5	9.1	2.4	2.3	3.7	.....
13 months but less than 14.....	9.8	5.8	10.2	9.9	11.3	.....	.....
12 months but less than 13.....	17.9	12.1	8.5	5.2	5.6	.....	.....
11 months but less than 12.....	11.9	12.3	9.6	4.1	5.7	.....	.....
10 months but less than 11.....	12.4	8.6	8.0	7.5	5.3	.....	.....
9 months but less than 10.....	17.0	.....	.....	.....	4.0	.....	.....
8 months but less than 9.....	15.2	.....	.....	.....	.....	.....	.....
Girls: Average.....	9.0	7.1	7.7	6.0	5.0	4.3	4.3
23 to 24 months.....	8.9	7.3	5.9	5.9	4.5	4.1	4.8
22 months but less than 23.....	7.3	7.0	10.6	4.4	6.3	4.3	6.7
21 months but less than 22.....	8.9	9.7	7.7	6.0	7.1	5.7	2.0
20 months but less than 21.....	11.9	5.6	4.7	5.5	4.8	3.3	1.7
19 months but less than 20.....	13.5	6.7	7.8	6.1	7.2	4.5	2.8
18 months but less than 19.....	9.6	5.7	9.8	3.5	3.6	4.2	.....
17 months but less than 18.....	10.8	8.8	6.3	7.1	2.4	4.7	.....
16 months but less than 17.....	10.3	11.5	11.8	7.4	7.1	5.5	.....
15 months but less than 16.....	7.2	7.1	9.7	6.0	5.9	4.4	.....
14 months but less than 15.....	7.6	4.9	9.1	5.3	3.6	3.6	.....
13 months but less than 14.....	10.7	8.0	13.0	.....	.....	.....	.....
12 months but less than 13.....	7.5	7.2	9.3	4.9	4.8	.....	.....
11 months but less than 12.....	9.0	6.3	5.0	7.2	4.4	.....	.....
10 months but less than 11.....	10.7	.....	.....	.....	.....	.....	.....

¹ Not shown where base is less than 100, or for "fringe" months.

[illegible]

WORK HISTORIES OF 21 MONTHS, BUT LESS THAN 22.

[illegible]

TABLE 9.—Average percentage of periods of unemployment with specified duration, by length of work history and sex of child.

Duration of unemployment and sex.		Periods of unemployment.		Per cent terminated with specified duration among periods of unemployment originating in work histories of—	
ALL CHILDREN.	Total that could have terminated duration.	Number.	Per cent.	Per cent terminated with specified duration among periods of unemployment originating in work histories of—	
				23 to 24 months.	21 to 22 months.
Less than 1 month.	197	41.4	40.0	16.9	37.4
1 month but less than 2.	5,583	197	3.5	12.0	37.4
2 months but less than 3.	5,227	912	17.5	8.5	42.5
3 months but less than 4.	5,227	414	7.9	3.3	16.9
4 months but less than 5.	4,046	272	6.7	3.3	8.3
5 months but less than 6.	4,046	171	4.2	3.3	8.3
6 months but less than 7.	4,046	171	4.2	3.3	8.3
7 months but less than 8.	4,046	171	4.2	3.3	8.3
8 months but less than 9.	4,046	171	4.2	3.3	8.3
9 months but less than 10.	4,046	171	4.2	3.3	8.3
10 months but less than 11.	4,046	171	4.2	3.3	8.3
11 months but less than 12.	4,046	171	4.2	3.3	8.3
12 months but less than 13.	4,046	171	4.2	3.3	8.3
13 months but less than 14.	4,046	171	4.2	3.3	8.3
14 months but less than 15.	4,046	171	4.2	3.3	8.3
15 months but less than 16.	4,046	171	4.2	3.3	8.3
16 months but less than 17.	4,046	171	4.2	3.3	8.3
17 months but less than 18.	4,046	171	4.2	3.3	8.3
18 months but less than 19.	4,046	171	4.2	3.3	8.3
19 months but less than 20.	4,046	171	4.2	3.3	8.3
20 months but less than 21.	4,046	171	4.2	3.3	8.3
21 months but less than 22.	4,046	171	4.2	3.3	8.3
22 months but less than 23.	4,046	171	4.2	3.3	8.3
23 months but less than 24.	4,046	171	4.2	3.3	8.3
24 months but less than 25.	4,046	171	4.2	3.3	8.3
25 months but less than 26.	4,046	171	4.2	3.3	8.3
26 months but less than 27.	4,046	171	4.2	3.3	8.3
27 months but less than 28.	4,046	171	4.2	3.3	8.3
28 months but less than 29.	4,046	171	4.2	3.3	8.3
29 months but less than 30.	4,046	171	4.2	3.3	8.3
30 months but less than 31.	4,046	171	4.2	3.3	8.3
31 months but less than 32.	4,046	171	4.2	3.3	8.3
32 months but less than 33.	4,046	171	4.2	3.3	8.3
33 months but less than 34.	4,046	171	4.2	3.3	8.3
34 months but less than 35.	4,046	171	4.2	3.3	8.3
35 months but less than 36.	4,046	171	4.2	3.3	8.3
36 months but less than 37.	4,046	171	4.2	3.3	8.3
37 months but less than 38.	4,046	171	4.2	3.3	8.3
38 months but less than 39.	4,046	171	4.2	3.3	8.3
39 months but less than 40.	4,046	171	4.2	3.3	8.3
40 months but less than 41.	4,046	171	4.2	3.3	8.3
41 months but less than 42.	4,046	171	4.2	3.3	8.3
42 months but less than 43.	4,046	171	4.2	3.3	8.3
43 months but less than 44.	4,046	171	4.2	3.3	8.3
44 months but less than 45.	4,046	171	4.2	3.3	8.3
45 months but less than 46.	4,046	171	4.2	3.3	8.3
46 months but less than 47.	4,046	171	4.2	3.3	8.3
47 months but less than 48.	4,046	171	4.2	3.3	8.3
48 months but less than 49.	4,046	171	4.2	3.3	8.3
49 months but less than 50.	4,046	171	4.2	3.3	8.3
50 months but less than 51.	4,046	171	4.2	3.3	8.3
51 months but less than 52.	4,046	171	4.2	3.3	8.3
52 months but less than 53.	4,046	171	4.2	3.3	8.3
53 months but less than 54.	4,046	171	4.2	3.3	8.3
54 months but less than 55.	4,046	171	4.2	3.3	8.3
55 months but less than 56.	4,046	171	4.2	3.3	8.3
56 months but less than 57.	4,046	171	4.2	3.3	

TABLE 10.—Percentage of cases of unemployment of each duration, by month.

TABLE 10.—Percentage of cases of unemployment terminated with specified duration of work history.

Duration of unemployment and sex.	INDUSTRIAL INSTABILITY OF CHILD WORKERS.											
	Number of cases of unemployment terminated with specified duration of work history.											
	First.	Second.	Third.	Fourth.	Fifth.	Sixth.	Seventh.	Eighth.	Ninth.	Tenth.	Eleventh.	Twelfth.
ALL CHILDREN.												
Less than 1 month.	38.6	37.1	33.3	40.0	42.6	41.5	43.1	43.1	40.5	42.6	45.9	41.8
1 month but less than 2.	10.4	18.7	20.1	15.6	17.4	17.0	17.8	14.8	10.7	15.4	14.9	14.3
2 months but less than 3.	10.4	8.9	8.5	6.2	7.4	8.7	7.9	8.4	6.7	10.4	10.2	10.2
3 months but less than 4.	6.0	6.4	8.0	5.5	2.9	2.4	6.3	7.9	6.7	4.0	3.9	3.9
4 months but less than 5.	6.0	4.2	2.8	2.1	4.4	2.6	3.9	2.0	4.2	3.1	3.2	3.2
5 months but less than 6.	4.1	4.1	4.8	3.5	2.0	2.0	2.9	1.8	2.5	2.0	2.7	2.7
6 months but less than 7.	4.1	2.6	1.7	2.2	1.9	1.4	1.4	1.8	1.1	1.0	1.3	1.3
7 months but less than 8.	1.5	1.5	1.9	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
8 months but less than 9.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
9 months but less than 10.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
10 months but less than 11.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
11 months but less than 12.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
12 months but less than 13.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
13 months but less than 14.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
14 months but less than 15.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
15 months but less than 16.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
16 months but less than 17.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
17 months but less than 18.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
18 months but less than 19.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
19 months but less than 20.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
20 months but less than 21.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
21 months but less than 22.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
22 months but less than 23.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
23 months but less than 24.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
24 months but less than 25.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
25 months but less than 26.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
26 months but less than 27.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
27 months but less than 28.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
28 months but less than 29.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
29 months but less than 30.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
30 months but less than 31.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
31 months but less than 32.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
32 months but less than 33.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
33 months but less than 34.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
34 months but less than 35.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
35 months but less than 36.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
36 months but less than 37.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
37 months but less than 38.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
38 months but less than 39.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
39 months but less than 40.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
40 months but less than 41.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
41 months but less than 42.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
42 months but less than 43.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
43 months but less than 44.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
44 months but less than 45.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
45 months but less than 46.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
46 months but less than 47.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
47 months but less than 48.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
48 months but less than 49.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
49 months but less than 50.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
50 months but less than 51.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
51 months but less than 52.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
52 months but less than 53.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
53 months but less than 54.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
54 months but less than 55.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
55 months but less than 56.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
56 months but less than 57.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
57 months but less than 58.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
58 months but less than 59.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
59 months but less than 60.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
60 months but less than 61.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
61 months but less than 62.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
62 months but less than 63.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
63 months but less than 64.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
64 months but less than 65.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
65 months but less than 66.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
66 months but less than 67.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
67 months but less than 68.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
68 months but less than 69.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
69 months but less than 70.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
70 months but less than 71.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
71 months but less than 72.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
72 months but less than 73.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
73 months but less than 74.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
74 months but less than 75.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
75 months but less than 76.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
76 months but less than 77.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
77 months but less than 78.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
78 months but less than 79.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
79 months but less than 80.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
80 months but less than 81.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
81 months but less than 82.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
82 months but less than 83.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
83 months but less than 84.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
84 months but less than 85.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
85 months but less than 86.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
86 months but less than 87.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
87 months but less than 88.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
88 months but less than 89.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
89 months but less than 90.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
90 months but less than 91.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
91 months but less than 92.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
92 months but less than 93.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
93 months but less than 94.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
94 months but less than 95.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
95 months but less than 96.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
96 months but less than 97.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
97 months but less than 98.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
98 months but less than 99.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
99 months but less than 100.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
100 months but less than 101.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
101 months but less than 102.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
102 months but less than 103.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
103 months but less than 104.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
104 months but less than 105.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3
105 months but less than 106.	2.1	2.1	3.4	1.1	1.8	1.1	1.4	1.6	1.5	1.4	1.3	1.3

TABLE 11.—*Cases of unemployment originating in specified month before end of work history.*

Month preceding fringe month before the end of work history.	Cases of unemployment.		
	Total.	Boys.	Girls.
Total.....	5, 961	3, 771	2, 190
Fringe month.....	77	55	22
First preceding.....	201	121	80
Second preceding.....	214	128	86
Third preceding.....	242	161	81
Fourth preceding.....	282	170	112
Fifth preceding.....	283	173	110
Sixth preceding.....	275	155	120
Seventh preceding.....	280	182	98
Eighth preceding.....	280	175	105
Ninth preceding.....	303	203	100
Tenth preceding.....	329	204	125
Eleventh preceding.....	327	210	117
Twelfth preceding.....	288	185	103
Thirteenth preceding.....	301	186	115
Fourteenth preceding.....	289	183	106
Fifteenth preceding.....	253	156	97
Sixteenth preceding.....	270	174	96
Seventeenth preceding.....	257	176	81
Eighteenth preceding.....	246	165	81
Nineteenth preceding.....	233	156	77
Twentieth preceding.....	212	121	91
Twenty-first preceding.....	188	121	67
Twenty-second preceding.....	189	127	62
Twenty-third preceding.....	142	84	58

TABLE 12.—*Cases of unemployment not terminated at sixteenth birthday, by work-history month of origin.*

Month of origin.	Cases of unemployment not terminated at 16.		
	Total.	Boys.	Girls.
Total.....	1, 378	851	527
Fringe month.....	72	51	21
First preceding.....	163	103	60
Second preceding.....	145	87	58
Third preceding.....	134	88	46
Fourth preceding.....	136	83	53
Fifth preceding.....	113	77	36
Sixth preceding.....	72	37	35
Seventh preceding.....	52	31	21
Eighth preceding.....	62	33	29
Ninth preceding.....	65	40	25
Tenth preceding.....	57	30	27
Eleventh preceding.....	45	27	18
Twelfth preceding.....	35	20	15
Thirteenth preceding.....	33	21	12
Fourteenth preceding.....	35	24	11
Fifteenth preceding.....	28	17	11
Sixteenth preceding.....	33	18	15
Seventeenth preceding.....	20	12	8
Eighteenth preceding.....	24	16	8
Nineteenth preceding.....	17	11	6
Twentieth preceding.....	15	11	4
Twenty-first preceding.....	12	7	5
Twenty-second preceding.....	6	3	3
Twenty-third preceding.....	4	4



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